

Table IV. Hammerhead Ribozyme and Targate Sequences

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2639	CAUAGGAA CUGAUGAG X CGAA ACAAGAGG	358	CCTCTTGT A TTCCTATG	1603
2641	GCCAUAGG CUGAUGAG X CGAA AUACAAGA	359	TCTTGTAT T CCTATGCC	1604
2642	UGCCAUAG CUGAUGAG X CGAA AAUACAAG	360	CTTGTATT C CTATGGCA	1605
2645	CAUUGCCA CUGAUGAG X CGAA AGGAUAC	361	GTATTCCT A TGGCAATG	1606
2657	CAUAAAAG CUGAUGAG X CGAA AUGCAUUG	362	CAATGCAT C CTTTTATG	1607
2660	UUUCAUAA CUGAUGAG X CGAA AGGAUGCA	363	TGCATCCT T TTATGAAA	1608
2661	CUUCAUA CUGAUGAG X CGAA AAGGAUGC	364	GCATCCTT T TATGAAAG	1609
2662	ACUUUCAU CUGAUGAG X CGAA AAAGGAUG	365	CATCCTTT T ATGAAAGT	1610
2663	CACUUUCA CUGAUGAG X CGAA AAAAGGAU	366	ATCCTTTT A TGAAAGTG	1611
2674	UUAAGGUG CUGAUGAG X CGAA ACCACUUU	367	AAAGTGGT A CACCTTAA	1612
2680	AAAGCUUU CUGAUGAG X CGAA AGGUGUAC	368	GTACACCT T AAAGCTTT	1613
2681	AAAAGCUU CUGAUGAG X CGAA AAGGUGUA	369	TACACCTT A AAGCTTTT	1614
2687	UCAUAUAA CUGAUGAG X CGAA AGCUUUA	370	TTAAAGCT T TTATATGA	1615
2688	GUCAUAUA CUGAUGAG X CGAA AAGCUUUA	371	TAAAGCTT T TATATGAC	1616
2689	AGUCAUAU CUGAUGAG X CGAA AAAGCUUU	372	AAAGCTTT T ATATGACT	1617
2690	CAGUCAUA CUGAUGAG X CGAA AAAAGCUU	373	AAGCTTTT A TATGACTG	1618
2692	UACAGUCA CUGAUGAG X CGAA AUAAAAGC	374	GCTTTTAT A TGACTGTA	1619
2700	UACUCUGC CUGAUGAG X CGAA ACAGUCAU	375	ATGACTGT A GCAGAGTA	1620
2708	UCACCAGA CUGAUGAG X CGAA ACUCUGCU	376	AGCAGAGT A TCTGGTGA	1621
2710	AAUCACCA CUGAUGAG X CGAA AUACUCUG	377	CAGAGTAT C TGGTGATT	1622
2718	GAAUUGAC CUGAUGAG X CGAA AUCACCAG	378	CTGGTGAT T GTCAATTC	1623
2721	AGUGAAUU CUGAUGAG X CGAA ACAALCAC	379	GIGATTGT C AATTCACT	1624
2725	GGGAAGUG CUGAUGAG X CGAA AUUGACAA	380	TTGTCAAT T CACTTCCC	1625
2726	GGGGAAGU CUGAUGAG X CGAA AAUUGACA	381	TGTCAATT C ACTTCCCC	1626
2730	AUAGGGGG CUGAUGAG X CGAA AGUGAAUU	382	AATTCACT T CCCCCTAT	1627
2731	UAUAGGGG CUGAUGAG X CGAA AAGUGAAU	383	ATTCACTT C CCCCATA	1628
2737	UAUUCCUA CUGAUGAG X CGAA AGGGGGAA	384	TTCCCCCT A TAGGAATA	1629
2739	UGUAUCC CUGAUGAG X CGAA AUAGGGGG	385	CCCCCTAT A GGAATACA	1630
2745	GCCCCUUG CUGAUGAG X CGAA AUUCCUAU	386	ATAGGAAT A CAAGGGGC	1631
2772	AACUAGGG CUGAUGAG X CGAA AUCUGCCU	387	AGGCAGAT C CCTAGTT	1632
2777	UGGCCAAC CUGAUGAG X CGAA AGGGGAUC	388	GATCCCCCT A GTTGGCCA	1633
2780	UCUUGGCC CUGAUGAG X CGAA ACUAGGGG	389	CCCCTAGT T GGCCAAGA	1634
2791	GUUAAAAU CUGAUGAG X CGAA AGUCUUGG	390	CCAAGACT T ATTTTAAC	1635
2792	AGUAAAAA CUGAUGAG X CGAA AAGUCUUG	391	CAAGACTT A TTTTAAC	1636
2794	CAAGUUA CUGAUGAG X CGAA AUAAGUCU	392	AGACTTAT T TTAAGTIG	1637
2795	UCAAGUUA CUGAUGAG X CGAA AAUAAGUC	393	GACTTATT T TAACTTGA	1638
2796	AUCAAGUU CUGAUGAG X CGAA AAUAAGU	394	ACTTATTT T AACTTGAT	1639
2797	UAUCAAGU CUGAUGAG X CGAA AAAUAAG	395	CTTATTTT A ACTTGATA	1640
2801	AGUGUAUC CUGAUGAG X CGAA AGUAAAAA	396	TTTTAACT T GATACACT	1641
2805	CUGCAGUG CUGAUGAG X CGAA AUCAAGUU	397	AACTTGAT A CACTGCAG	1642
2816	ACACUCUG CUGAUGAG X CGAA AUCUGCAG	398	CTGCAGAT T CAGAGTGT	1643
2817	GACACUCU CUGAUGAG X CGAA AAUCUGCA	399	TGCAGATT C AGAGTGT	1644
2825	AGCUUCAG CUGAUGAG X CGAA ACACUCUG	400	CAGAGTGT C CTGAAGCT	1645
2834	CAGAGGCA CUGAUGAG X CGAA AGCUUCAG	401	CTGAAGCT C TGCTCTG	1646
2840	GAAAGCCA CUGAUGAG X CGAA AGGCAGAG	402	CTCTGCCT C TGCTTTC	1647

Table IV. Hammerhead Ribozyme and Target Sequences

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2846	UGACCGGA CUGAUGAG X CGAA AGCCAGAG	403	CTCTGGCT T TCCGGTCA	1648
2847	AUGACCGG CUGAUGAG X CGAA AAGCCAGA	404	TCIGGCTT T CCGGTCAT	1649
2848	CAUGACCG CUGAUGAG X CGAA AAAGCCAG	405	CTGGCTTT C CCGTCATG	1650
2853	GAACCCAU CUGAUGAG X CGAA ACCGGAAA	406	TTTCCGGT C ATGGGTTC	1651
2860	UUAACUGG CUGAUGAG X CGAA ACCCAUGA	407	TCATGGGT T CCAGTTAA	1652
2861	AUUAACUG CUGAUGAG X CGAA AACCCAUG	408	CATGGGTT C CAGTTAAT	1653
2866	CAUGAAJU CUGAUGAG X CGAA ACUGGAAC	409	GTTCAGT T AATTCATG	1654
2867	GCAUGAAU CUGAUGAG X CGAA AACUGGAA	410	TTCCAGTT A ATTCATGC	1655
2870	GAGGCAUG CUGAUGAG X CGAA AUUAACUG	411	CAGTTAAT T CATGCCTC	1656
2871	GGAGGCAU CUGAUGAG X CGAA AAUUAACU	412	AGTTAATT C ATGCCTCC	1657
2878	GUCCAUGG CUGAUGAG X CGAA AGGCAUGA	413	TCATGCCT C CCATGGAC	1658
2889	GCUCUCCA CUGAUGAG X CGAA AGGUCCAU	414	ATGGACCT A TGGAGAGC	1659
2905	CUAAGAU CUGAUGAG X CGAA ACUUGUUG	415	CAACAAGT T GATCTTAG	1660
2909	UUAACUAA CUGAUGAG X CGAA AUCAACUU	416	AAGTTGAT C TTAGTTAA	1661
2911	ACUUAACU CUGAUGAG X CGAA AGAUCAAC	417	GTTGATCT T AGTTAAGT	1662
2912	GACUUAAC CUGAUGAG X CGAA AAGAUCAA	418	TTGATCTT A GTTAAGTC	1663
2915	GGAGACUU CUGAUGAG X CGAA ACUAAGAU	419	ATCTTAGT T AAGTCTCC	1664
2916	GGGAGACU CUGAUGAG X CGAA AACUAAGA	420	TCTTAGTT A AGTCTCCC	1665
2920	UAUAGGGA CUGAUGAG X CGAA ACUUAACU	421	AGTTAAGT C TCCCTATA	1666
2922	CAUAUAGG CUGAUGAG X CGAA AGACUUA	422	TTAAGTCT C CCTATATG	1667
2926	CCCUCUA CUGAUGAG X CGAA AGGGAGAC	423	GTCTCCCT A TATGAGGG	1668
2928	AUCCCUCA CUGAUGAG X CGAA AUAGGGAG	424	CTCCCTAT A TGAGGGAT	1669
2937	CAGGAACU CUGAUGAG X CGAA AUCCCUCA	425	TGAGGGAT A AGTTCCTG	1670
2941	AAAUACAG CUGAUGAG X CGAA ACUUAUCC	426	GGATAAGT T CCTGATTT	1671
2942	AAAACAG CUGAUGAG X CGAA AACUUAUC	427	GATAAGTT C CTGATTTT	1672
2948	AAAACAAA CUGAUGAG X CGAA AUCAGGAA	428	TTCCIGAT T TTGTGTTT	1673
2949	AAAAACAA CUGAUGAG X CGAA AAUCAGGA	429	TCCIGATT T TTGTGTTT	1674
2950	UAAAAACA CUGAUGAG X CGAA AAUACAGG	430	CCTGATTT T TGTTTTTA	1675
2951	AUAAAAAC CUGAUGAG X CGAA AAAAUCAG	431	CTGATTTT T GTTTTTAT	1676
2954	AAAAUAAA CUGAUGAG X CGAA ACAAAAAU	432	ATTTTGT T TTTATTTT	1677
2955	AAAAUAA CUGAUGAG X CGAA AACAAAAA	433	TTTTTGT T TTTATTTT	1678
2956	CAAAAAUA CUGAUGAG X CGAA AAACAAAA	434	TTTTGTT T TATTTTGT	1679
2957	ACAAAAAU CUGAUGAG X CGAA AAAACAAA	435	TTTGTTTT T ATTTTGT	1680
2958	CACAAAAA CUGAUGAG X CGAA AAAACAA	436	TTTGTTTT A TTTTGTG	1681
2960	AACACAAA CUGAUGAG X CGAA AUAAAAAC	437	GTTTTTAT T TTTGTGT	1682
2961	UAACACAA CUGAUGAG X CGAA AAUAAAAA	438	TTTTTAT T TTTGTTA	1683
2962	GUAACACA CUGAUGAG X CGAA AAUAAAAA	439	TTTTATTT T TTTGTAC	1684
2963	UGUAACAC CUGAUGAG X CGAA AAAUAAAA	440	TTTTATTT T TTTGTACA	1685
2968	UCUUUUGU CUGAUGAG X CGAA ACACAAAA	441	TTTTGTGT T ACAAAAGA	1686
2969	UUCUUUUG CUGAUGAG X CGAA AACACAAA	442	TTTGTGT A CAAAAGAA	1687
2984	CAGGGAGG CUGAUGAG X CGAA AGGGCUUU	443	AAAGCCCT C CCTCCCTG	1688
2988	AGUUCAGG CUGAUGAG X CGAA AGGGAGGG	444	CCCTCCCT C CCTGAAC	1689
2997	CUUACUGC CUGAUGAG X CGAA AGUUCAGG	445	CCTGAAC T GCAGTAAG	1690
3003	GCUGACCU CUGAUGAG X CGAA ACUGCAAG	446	CTTGCAGT A AGGTCAGC	1691
3008	CUGAAGCU CUGAUGAG X CGAA ACCUUAACU	447	AGTAAGGT C AGCTTCAG	1692

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3013	AGGUCCUG CUGAUGAG X CGAA AGCUGACC	448	GGTCAGCT T CAGGAOCT	1693
3014	CAGGUCCU CUGAUGAG X CGAA AAGCUGAC	449	GTCAGCTT C AGGAOCTG	1694
3024	CCCACUGG CUGAUGAG X CGAA ACAGGUCC	450	GGACCTGT T CCAGTGGG	1695
3025	GCCCACUG CUGAUGAG X CGAA AACAGGUC	451	GACCTGTT C CAGTGGGC	1696
3039	GAUCCAAG CUGAUGAG X CGAA ACAGUGCC	452	GGCACTGT A CTGGATC	1697
3042	GAAGAUCC CUGAUGAG X CGAA AGUACAGU	453	ACTGTACT T GGATCTTC	1698
3047	GCCGGGAA CUGAUGAG X CGAA AUCCAAGU	454	ACTTGGAT C TTCCCGGC	1699
3049	ACGCCGGG CUGAUGAG X CGAA AGAUCCAA	455	TTGGATCT T CCCGGCGT	1700
3050	CACGCCGG CUGAUGAG X CGAA AAGAUCCA	456	TGGATCTT C CCGCGTIG	1701
3068	CCUGUGU CUGAUGAG X CGAA AGGCACAC	457	GTGTGCCT T ACACAGGG	1702
3069	CCCCUGUG CUGAUGAG X CGAA AAGGCACA	458	TGTGCCTT A CACAGGGG	1703
3086	CCACAGUG CUGAUGAG X CGAA ACAGUUCA	459	TGAACGT T CACTGTGG	1704
3087	ACCACAGU CUGAUGAG X CGAA AACAGUUC	460	GAACGT T CACTGTGGT	1705
3112	CUACCAU CUGAUGAG X CGAA ACCUCAU	461	ATGAGGGT A AATGGTAG	1706
3119	CUUCAAC CUGAUGAG X CGAA ACCAUUA	462	TAAATGGT A GTTGAAG	1707
3122	CUCCUUC CUGAUGAG X CGAA ACUACCAU	463	ATGGTAGT T GAAAGGAG	1708
3146	CUAAUUC CUGAUGAG X CGAA ACACCAGG	464	CCTGGTGT T GCATTAG	1709
3151	CAGGGCUA CUGAUGAG X CGAA AUGCAACA	465	TGTTGCAT T TAGCCCTG	1710
3152	CCAGGGCU CUGAUGAG X CGAA AAUGCAAC	466	GTTCATT T AGCCCTGG	1711
3153	CCCAGGGC CUGAUGAG X CGAA AAUGCAA	467	TTGCATT A GCCCTGGG	1712
3179	UGCACAAG CUGAUGAG X CGAA ACUGUUCA	468	TGAACAGT A CTGTGCA	1713
3182	UCCUGCAC CUGAUGAG X CGAA AGUACUGU	469	ACAGTACT T GTGCAGGA	1714
3192	GCCACAAC CUGAUGAG X CGAA AUCCUGCA	470	TGCAGGAT T GTGTGCG	1715
3195	GUAGCCAC CUGAUGAG X CGAA ACAAUCCU	471	AGGATTGT T GTGGCTAC	1716
3202	UUCUCUAG CUGAUGAG X CGAA AGCCACAA	472	TTGTGGCT A CTAGAGAA	1717
3205	UUGUUCUC CUGAUGAG X CGAA AGUAGCCA	473	TGGCTACT A GAGAACAA	1718
3224	UUCUGCCC CUGAUGAG X CGAA ACUUUCCC	474	GGGAAAGT A GGGCAGAA	1719
3240	CAGAACUG CUGAUGAG X CGAA AUCCAGUU	475	AACTGGAT A CAGTCTG	1720
3245	GUGCUCAG CUGAUGAG X CGAA ACUGUAC	476	GATACAGT T CTGAGCAC	1721
3246	UGUGCUCA CUGAUGAG X CGAA AACUGUAU	477	ATACAGTT C TGAGCACA	1722
3263	ACCUGAGC CUGAUGAG X CGAA AGUCUGGC	478	GCCAGACT T GCTCAGGT	1723
3267	GGCCACCU CUGAUGAG X CGAA AGCAAGUC	479	GACTTGCT C AGGTGGCC	1724
3293	UUCUAGG CUGAUGAG X CGAA AGCUCAG	480	CTGCAGCT A CCTAGGAA	1725
3297	AAUGUUC CUGAUGAG X CGAA AGGUAGCU	481	AGCTACCT A GGAACATT	1726
3305	CUGCAAGG CUGAUGAG X CGAA AUGUCCU	482	AGGAACAT T CCTTGACAG	1727
3306	UCUGCAAG CUGAUGAG X CGAA AAUGUUC	483	GGAACATT C CTTGACAG	1728
3309	GGGUCUG CUGAUGAG X CGAA AGGAAUGU	484	ACATTCTT T GCAGACC	1729
3323	CCAAAGGC CUGAUGAG X CGAA AUGCGGGG	485	CCCCGCAT T GCTTTGG	1730
3328	CACCCCCA CUGAUGAG X CGAA AGGCAALG	486	CATTGCCT T TGGGGTIG	1731
3329	GCACCCCC CUGAUGAG X CGAA AAGGCAAU	487	ATTGCCTT T GGGGGTGC	1732
3346	ACCCACAG CUGAUGAG X CGAA AUCCCAGG	488	CCTGGGAT C CCTGGGGT	1733
3355	AGCUGGAC CUGAUGAG X CGAA ACCCCAGG	489	CCTGGGGT A GTCCAGCT	1734
3358	AAGAGCUG CUGAUGAG X CGAA ACUACCCC	490	GGGGTAGT C CAGCTCTT	1735
3364	AUGAAUA CUGAUGAG X CGAA AGCUGGAC	491	GTCCAGCT C TTATTCAT	1736
3366	AAAUAAU CUGAUGAG X CGAA AGAGCUGG	492	CCAGCTCT T ATTCAATT	1737

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Table IV. Hammerhead Ribozyme and Targte Sequences

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3367	GAA AUGAA CUGAUGAG X CGAA AAGAGCUG	493	CAGCTCTT A TTCATTTC	1738
3369	GGGAAAU CUGAUGAG X CGAA AUAAGAGC	494	GCTCTTAT T CATTTCCC	1739
3370	UGGGAAAU CUGAUGAG X CGAA AAUAAGAG	495	CTCTTATT C ATTTCCCA	1740
3373	CGCUGGGA CUGAUGAG X CGAA AUGAAUAA	496	TTATTTCAT T TCCAGCG	1741
3374	ACGCUGGG CUGAUGAG X CGAA AAUGAAUA	497	TATTTCAT T CCCAGCGT	1742
3375	CACGCUGG CUGAUGAG X CGAA AAAUGAAU	498	ATTTCATT C CCAGCGTG	1743
3392	CUUCUCC CUGAUGAG X CGAA ACCAGGGC	499	GCCCTGGT T GGAAGAAG	1744
3408	UACAACUU CUGAUGAG X CGAA ACAGCUGC	500	GCAGCTGT C AAGTTGTA	1745
3413	CUGUCUAC CUGAUGAG X CGAA ACUUGACA	501	TGTCAGT T GTAGACAG	1746
3416	CAGCUGUC CUGAUGAG X CGAA ACAACUUG	502	CAAGTTGT A GACAGCTG	1747
3428	AUUGUAGG CUGAUGAG X CGAA ACACAGCU	503	AGCTGTGT T CCTACAAT	1748
3429	AAUUGUAG CUGAUGAG X CGAA AACACAGC	504	GCTGTGT C CTACAATT	1749
3432	GCCAUUG CUGAUGAG X CGAA AGGAACAC	505	GTGTTCCT A CAATTGGC	1750
3437	GCUGGGCC CUGAUGAG X CGAA AUUGUAGG	506	CCTACAAT T GGCCAGC	1751
3478	GUGACAGC CUGAUGAG X CGAA ACGGUCCC	507	GGGACCGT T GCTGTAC	1752
3484	UGAGUAGU CUGAUGAG X CGAA ACAGCAAC	508	GTTCGTGT C ACTACTCA	1753
3488	AGCCUGAG CUGAUGAG X CGAA AGUGACAG	509	CTGTACT A CTCAGGCT	1754
3491	GUCAGCCU CUGAUGAG X CGAA AGUAGUGA	510	TCACTACT C AGGCTGAC	1755
3511	CGUAAUCU CUGAUGAG X CGAA ACCAGGCC	511	GGCCTGGT C AGATTACG	1756
3516	GCAUACGU CUGAUGAG X CGAA AUCUGACC	512	GGTCAGAT T ACGTATGC	1757
3517	GGCAUACG CUGAUGAG X CGAA AAUCUGAC	513	GTCAGATT A CGTATGCC	1758
3521	CAAGGGCA CUGAUGAG X CGAA ACGUAAUC	514	GATTACGT A TGCCCTTG	1759
3528	AAACCACC CUGAUGAG X CGAA AGGGCAUA	515	TATGCCCT T GGTGGTTT	1760
3535	UAUCUCUA CUGAUGAG X CGAA ACCACCAA	516	TGGTGGT T TAGAGATA	1761
3536	UUAUCUCU CUGAUGAG X CGAA AACCACCA	517	TGGTGGT T AGAGATAA	1762
3537	AUUAUCUC CUGAUGAG X CGAA AAACCACC	518	GGTGGTTT A GAGATAAT	1763
3543	UUUUGGAU CUGAUGAG X CGAA AUCUCUAA	519	TTAGAGAT A ATCCAAAA	1764
3546	UGAUUUUG CUGAUGAG X CGAA AUUAUCUC	520	GAGATAAT C CAAAATCA	1765
3553	CAAACCCU CUGAUGAG X CGAA AUUUUGGA	521	TCCAAAAT C AGGGTTTG	1766
3559	CCAAACCA CUGAUGAG X CGAA ACCUGAU	522	ATCAGGGT T TGGTTTGG	1767
3560	CCCAAACC CUGAUGAG X CGAA AACCUGA	523	TCAGGGTT T GGTTTGGG	1768
3564	CUUCCCCA CUGAUGAG X CGAA ACCAAACC	524	GGTTTGGT T TGGGGAAG	1769
3565	UCUCCCC CUGAUGAG X CGAA AACCAAAC	525	GTTTGGTT T GGGGAAGA	1770
3578	AGGGGGAG CUGAUGAG X CGAA AUUUUCUU	526	AAGAAAAT C CTCCCCCT	1771
3581	GGAAGGGG CUGAUGAG X CGAA AGGAUUUU	527	AAAATCCT C CCCCCTCC	1772
3587	GGGGGAGG CUGAUGAG X CGAA AGGGGGAG	528	CTCCCCCT T CCTCCCCC	1773
3588	CGGGGGAG CUGAUGAG X CGAA AAGGGGGA	529	TCCCCCTT C CTCCCCCG	1774
3591	GGGCGGGG CUGAUGAG X CGAA AGGAAGGG	530	CCCTTCCT C CCGCGCCC	1775
3603	CGGUAGGG CUGAUGAG X CGAA ACGGGGCG	531	CGCCCCGT T CCTACCG	1776
3604	GCGGUAGG CUGAUGAG X CGAA AACGGGGC	532	GCCCCGTT C CCTACCGC	1777
3608	GGAGGCGG CUGAUGAG X CGAA AGGGAACG	533	CGTTCCCT A CCGCCTCC	1778
3615	CAGGAGUG CUGAUGAG X CGAA AGGCGGUA	534	TACCGCCT C CACTCCTG	1779
3620	GCUGGCAG CUGAUGAG X CGAA AGUGGAGG	535	CCTCCACT C CTGCCAGC	1780
3630	AAGGAAAU CUGAUGAG X CGAA AGCUGGCA	536	TGCCAGCT C ATTTTCCT	1781
3633	UUGAAGGA CUGAUGAG X CGAA AUGAGCUG	537	CAGCTCAT T TCCTTCAA	1782

Table IV. Hammerhead Ribozyme and Target Sequences

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3634	AUUGAAGG CUGAUGAG X CGAA AAUGAGCU	538	AGCTCATT T CCTTCAAT	1783
3635	AAUUGAAG CUGAUGAG X CGAA AAAUGAGC	539	GCTCATTT C CTTCATTT	1784
3638	GGAAAUUG CUGAUGAG X CGAA AGGAAAUG	540	CATTTCCT T CAATTTC	1785
3639	AGGAAAUU CUGAUGAG X CGAA AAGGAAU	541	ATTTCCTT C AATTTCCT	1786
3643	UCAAGGA CUGAUGAG X CGAA AUUGAAGG	542	CCTTCAAT T TCCTTTGA	1787
3644	GUCAAAGG CUGAUGAG X CGAA AAUUGAAG	543	CTTCAATT T CCTTTGAC	1788
3645	GGUCAAG CUGAUGAG X CGAA AAUUGAA	544	TTCAATTT C CTTTGACC	1789
3648	AUAGGUCA CUGAUGAG X CGAA AGGAAU	545	AATTTCCT T TGACCTAT	1790
3649	UAUAGGUC CUGAUGAG X CGAA AAGGAAU	546	ATTTCCTT T GACCTATA	1791
3655	UUAGCCUA CUGAUGAG X CGAA AGGUCAAA	547	TTTGACCT A TAGGCTAA	1792
3657	UUUUAGCC CUGAUGAG X CGAA AUAGGUCA	548	TGACCTAT A GGCTAAAA	1793
3662	UUCUUUUU CUGAUGAG X CGAA AGCCUUA	549	TATAGGCT A AAAAGAA	1794
3676	GCUGGAU CUGAUGAG X CGAA AGCCUUUC	550	GAAAGGCT C ATTCCAGC	1795
3679	GUGGCUUG CUGAUGAG X CGAA AUGAGCCU	551	AGGCTCAT T CCAGCCAC	1796
3680	UGUGGUG CUGAUGAG X CGAA AAUGAGCC	552	GGCTCATT C CAGCCACA	1797
3698	GCCCAGG CUGAUGAG X CGAA AGGUGCC	553	GGCAGCCT T CCTGGGC	1798
3699	GGCCAGG CUGAUGAG X CGAA AAGGCU	554	GCAGCCTT C CCTGGGC	1799
3709	GAGAAGCA CUGAUGAG X CGAA AGGCCAG	555	CTGGGCTT T TGCTTCT	1800
3710	AGAGAAGC CUGAUGAG X CGAA AAGGCCA	556	TGGGCTT T GCTTCTT	1801
3714	UGCUAGAG CUGAUGAG X CGAA AGCAAAGG	557	CCTTTGCT T CTCTAGCA	1802
3715	GUGCUAGA CUGAUGAG X CGAA AAGCAAAG	558	CTTTGCTT C TCTAGCAC	1803
3717	UUGUGUA CUGAUGAG X CGAA AGAAGCAA	559	TTGCTTCT C TAGCACAA	1804
3719	AAUUGUG CUGAUGAG X CGAA AGAGAAGC	560	GCTTCTCT A GCACAATT	1805
3727	UAACCCAU CUGAUGAG X CGAA AUUGUGU	561	AGCACAAT T ATGGGTTA	1806
3728	GUAACCCA CUGAUGAG X CGAA AAUUGUG	562	GCACAATT A TGGGTTAC	1807
3734	AAGGAAGU CUGAUGAG X CGAA ACCCAUA	563	TTATGGGT T ACTTCCTT	1808
3735	AAAGGAAG CUGAUGAG X CGAA AACCCAU	564	TATGGGTT A CTTCCTTT	1809
3738	GAAAAAGG CUGAUGAG X CGAA AGUAACCC	565	GGGTACTT T CCTTTTTC	1810
3739	AGAAAAAG CUGAUGAG X CGAA AAGUAACC	566	GGTTACTT C CTTTTTCT	1811
3742	UUAAGAAA CUGAUGAG X CGAA AGGAAGUA	567	TACTTCCT T TTCTTAA	1812
3743	GUUAAGAA CUGAUGAG X CGAA AAGGAAGU	568	ACTTCCTT T TTCTTAAC	1813
3744	UGUUAAGA CUGAUGAG X CGAA AAAGGAAG	569	CTTCCTTT T TCTTAACA	1814
3745	UUGUUAAG CUGAUGAG X CGAA AAAAGGAA	570	TTCTTTT T CTTAACAA	1815
3746	UUUGUUA CUGAUGAG X CGAA AAAAAGGA	571	TCCTTTT C TTAACAA	1816
3748	UUUUUGU CUGAUGAG X CGAA AGAAAAAG	572	CTTTTCT T AACAAAA	1817
3749	UUUUUGU CUGAUGAG X CGAA AAGAAAA	573	TTTTTCTT A AAAAAAA	1818
3764	GGAAUUA CUGAUGAG X CGAA ACAUUCU	574	AAGAATGT T TGATTTC	1819
3765	AGGAAUUC CUGAUGAG X CGAA AACAUUCU	575	AGAATGTT T GATTTCCT	1820
3769	CCAGAGGA CUGAUGAG X CGAA AUCAAACA	576	TGTTTGAT T TCCCTGG	1821
3770	CCCAGAGG CUGAUGAG X CGAA AAUCAAAC	577	GTTTGATT T CCTCTGG	1822
3771	ACCCAGAG CUGAUGAG X CGAA AAUCAA	578	TTTGATT C CTCTGGG	1823
3774	GUCACCA CUGAUGAG X CGAA AGGAAUUC	579	GATTTCCT C TGGTGAC	1824
3785	CAGACAAU CUGAUGAG X CGAA AGGUCACC	580	GGTGACCT T ATTGCTG	1825
3786	ACAGACAA CUGAUGAG X CGAA AAGGUCAC	581	GTGACCTT A TTGCTGT	1826
3788	UUACAGAC CUGAUGAG X CGAA AUAAGGUC	582	GACCTTAT T GTCTGTAA	1827



Table IV. Hammerhead Ribozyme and Target Sequences

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3791	CAAUACA CUGAUGAG X CGAA ACAUAAG	583	CTTATTGT C TGIAATTG	1828
3795	GUUCAAU CUGAUGAG X CGAA ACAGACAA	584	TGICTGT A ATTGAAAC	1829
3798	AGGUUUC CUGAUGAG X CGAA AUACAGA	585	TCTGTAAT T GAAACCT	1830
3807	CCUCUCAA CUGAUGAG X CGAA AGGUUUC	586	GAAACCT A TTGAGAGG	1831
3809	CACCUCUC CUGAUGAG X CGAA AUAGGGUU	587	AACCTAT T GAGAGGIG	1832
3822	CUAACACA CUGAUGAG X CGAA ACAUACC	588	GGTGATGT C TGIGTTAG	1833
3828	CAUUGGU CUGAUGAG X CGAA ACACAGAC	589	GTCTGTGT T AGCCAATG	1834
3829	UCAUUGG CUGAUGAG X CGAA AACACAGA	590	TCTGTGT A GCCAATGA	1835
3845	CGAGCAGC CUGAUGAG X CGAA ACCUGGU	591	ACCCAGGT A GCTGCTCG	1836
3852	AGAAGCCC CUGAUGAG X CGAA AGCAGCUA	592	TAGCTGCT C GGGCTTCT	1837
3858	ACCAAGAG CUGAUGAG X CGAA AGCCCGAG	593	CTCGGCT T CTCITGGT	1838
3859	UACCAAGA CUGAUGAG X CGAA AAGCCCGA	594	TCGGGCTT C TCTTGGTA	1839
3861	CAUACCAA CUGAUGAG X CGAA AGAAGCCC	595	GGGCTTCT C TTGGTATG	1840
3863	GACAUACC CUGAUGAG X CGAA AGAGAAGC	596	GCTTCTCT T GGTATGTC	1841
3867	ACAAGACA CUGAUGAG X CGAA ACCAAGAG	597	CCTTGGT A TGICTGT	1842
3871	CCAAACAA CUGAUGAG X CGAA ACAUACCA	598	TGGTATGT C TTGTTTGG	1843
3873	UCCAAAC CUGAUGAG X CGAA AGACAUAC	599	GTATGTCT T GTTTGGAA	1844
3876	CUUUCCA CUGAUGAG X CGAA ACAAGACA	600	TGCTTGT T TGGAAAAG	1845
3877	ACUUUCC CUGAUGAG X CGAA ACAAGAC	601	GTCTGT T GGAAAAGT	1846
3890	AUGAUGA CUGAUGAG X CGAA AUCCACUU	602	AAGTGGAT T TCATTCAT	1847
3891	AAUGAUG CUGAUGAG X CGAA AAUCCACU	603	AGTGGATT T CATTCATT	1848
3892	AAUGAAU CUGAUGAG X CGAA AAUCCAC	604	GIGGATTT C ATTCATT	1849
3895	CAGAAUG CUGAUGAG X CGAA AUGAAUUC	605	GATTCAT T CATTTCTG	1850
3896	UCAGAAU CUGAUGAG X CGAA AAUGAAU	606	ATTCATT C ATTTCTGA	1851
3899	CAUACAGA CUGAUGAG X CGAA AUGAUGA	607	TCATTCAT T TCTGATTG	1852
3900	ACAUCAG CUGAUGAG X CGAA AAUGAUG	608	CATTCATT T CTGATTGT	1853
3901	GACAAUCA CUGAUGAG X CGAA AAUGAAU	609	ATTCATT C TGATTGIC	1854
3906	AACUGGAC CUGAUGAG X CGAA AUCAGAAA	610	TTCTGAT T GTCCAGTT	1855
3909	CUAACUG CUGAUGAG X CGAA ACAUCAG	611	CTGATTGT C CAGTTAAG	1856
3914	GAUCACUU CUGAUGAG X CGAA ACUGGACA	612	TGTCCAGT T AAGTGATC	1857
3915	UGAUCACU CUGAUGAG X CGAA AACUGGAC	613	GTCCAGTT A AGTGATCA	1858
3922	CCUUGGU CUGAUGAG X CGAA AUCACUUA	614	TAAGTGAT C ACCAAAGG	1859
3940	CCCUCCA CUGAUGAG X CGAA AUUCUCAG	615	CTGAGAAT C TGGGAGGG	1860
3968	CACAUAA CUGAUGAG X CGAA ACUUUUU	616	AAAAAGT T TTTATGIG	1861
3969	GCACUAA CUGAUGAG X CGAA AACUUUU	617	AAAAAGT T TTATGTGC	1862
3970	UGCACUA CUGAUGAG X CGAA AAACUUU	618	AAAAGTT T TATGTGCA	1863
3971	GUGCACU CUGAUGAG X CGAA AAAACUU	619	AAAGTTT T ATGTGCAC	1864
3972	AGUGCACA CUGAUGAG X CGAA AAAACUU	620	AAGTTTT A TGTGCACT	1865
3981	CCAAUUU CUGAUGAG X CGAA AGUGCACA	621	TGTGCACT T AAATTTGG	1866
3982	CCCAAUU CUGAUGAG X CGAA AAGUGCAC	622	GTGCACT A AATTTGGG	1867
3986	UGUCCCA CUGAUGAG X CGAA AUUUAAGU	623	ACTTAAAT T TGGGACA	1868
3987	UUGUCCC CUGAUGAG X CGAA AAUUAAG	624	CTTAAATT T GGGACAA	1869
3997	AUACAUAA CUGAUGAG X CGAA AUUGUCC	625	GGGACAAT T TTATGTAT	1870
3998	GAUACUA CUGAUGAG X CGAA AAUUGUCC	626	GGACAATT T TATGTATC	1871
3999	AGAUACU CUGAUGAG X CGAA AAUUGUCC	627	GACAATTT T ATGTATCT	1872

Table IV. Hammerhead Ribozyme and Targte Sequences

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4000	CAGAUACA CUGAUGAG X CGAA AAAAUUGU	628	ACAATTTT A TGIATCTG	1873
4004	AACACAGA CUGAUGAG X CGAA ACAUAAAA	629	TTTTATGT A TCIGTGTT	1874
4006	UUAACACA CUGAUGAG X CGAA AUACAUAA	630	TTATGTAT C TGIGTTAA	1875
4012	AUAUCCUU CUGAUGAG X CGAA ACACAGAU	631	ATCIGTGT T AAGGATAT	1876
4013	CAUAICCU CUGAUGAG X CGAA AACACAGA	632	TCIGTGTT A AGGATATG	1877
4019	CUUAAGCA CUGAUGAG X CGAA AUCCUUA	633	TTAAGGAT A TGCTTAAG	1878
4024	AUGUUCUU CUGAUGAG X CGAA AGCAUATC	634	GATATGCT T AAGAACAT	1879
4025	UAUGUUCU CUGAUGAG X CGAA AAGCAUAT	635	ATATGCTT A AGAACATA	1880
4033	AAAAGAAU CUGAUGAG X CGAA AUGUUCUU	636	AAGAACAT A ATTCTTTT	1881
4036	AACAAAAG CUGAUGAG X CGAA AUUAUGUU	637	AACATAAT T CTTTTGTT	1882
4037	CAACAAAA CUGAUGAG X CGAA AAUUAUGU	638	ACATAATT C TTTTGTGT	1883
4039	AGCAACAA CUGAUGAG X CGAA AGAAUUAU	639	ATAATTCT T TTGTGCT	1884
4040	CAGCAACA CUGAUGAG X CGAA AAGAAUUA	640	TAATTCTT T TGTTGCTG	1885
4041	ACAGCAAC CUGAUGAG X CGAA AAAGAAUJ	641	AATTCTTT T GTTGCTGT	1886
4044	CAAACAGC CUGAUGAG X CGAA ACAAAGA	642	TCTTTTGT T GCTGTTTG	1887
4050	CUUAAACA CUGAUGAG X CGAA ACAGCAAC	643	GTGCTGT T TGTTTAAG	1888
4051	UCUUAAC CUGAUGAG X CGAA AACAGCAA	644	TTGCTGTT T GTTTAAGA	1889
4054	GCUUCUUA CUGAUGAG X CGAA ACAAACAG	645	CTGTTTGT T TAAGAAGC	1890
4055	UGCUUCUU CUGAUGAG X CGAA AACAAACA	646	TGTTTGTT T AAGAAGCA	1891
4056	GUGCUUCU CUGAUGAG X CGAA AAACAAAC	647	GTTTGTTT A AGAAGCAC	1892
4067	AACAAACU CUGAUGAG X CGAA AGGUGCUU	648	AAGCACCT T AGTTTGTT	1893
4068	AAACAAAC CUGAUGAG X CGAA AAGGUGCU	649	AGCACCTT A GTTTGTTT	1894
4071	CUUAAACA CUGAUGAG X CGAA ACUAAGGU	650	ACCTTAGT T TGTTTAAG	1895
4072	UCUUAAC CUGAUGAG X CGAA AACUAAGG	651	CCTTAGTT T GTTTAAGA	1896
4075	GCUUCUUA CUGAUGAG X CGAA ACAAACUA	652	TAGTTTGT T TAAGAAGC	1897
4076	UGCUUCUU CUGAUGAG X CGAA AACAAACU	653	AGTTTGTT T AAGAAGCA	1898
4077	GUGCUUCU CUGAUGAG X CGAA AAACAAAC	654	GTTTGTTT A AGAAGCAC	1899
4088	UACUUAU CUGAUGAG X CGAA AGGUGCUU	655	AAGCACCT T ATATAGTA	1900
4089	AUACUUA CUGAUGAG X CGAA AAGGUGCU	656	AGCACCTT A TATAGTAT	1901
4091	UUAUACUA CUGAUGAG X CGAA AUAAGGUG	657	CACCTTAT A TAGTATAA	1902
4093	UAUUAUAC CUGAUGAG X CGAA AUUAUAGG	658	CCTTATAT A GTATAATA	1903
4096	AUAUAUUA CUGAUGAG X CGAA ACUAUUA	659	TATATAGT A TAATATAT	1904
4098	AUAUAUUA CUGAUGAG X CGAA AUACUUA	660	TATAGTAT A ATATATAT	1905
4101	AAAAUUA CUGAUGAG X CGAA AUUAUACU	661	AGTATAAT A TATATTTT	1906
4103	AAAAAAUA CUGAUGAG X CGAA AUUAUUA	662	TATAATAT A TATTTTTT	1907
4105	CAAAAAAA CUGAUGAG X CGAA AUUAUUA	663	TAATATAT A TTTTTTTG	1908
4107	UUCAAAAA CUGAUGAG X CGAA AUUAUUA	664	ATATATAT T TTTTTGAA	1909
4108	UUUAAAA CUGAUGAG X CGAA AAUAUUA	665	TATATATT T TTTTGAAA	1910
4109	AUUUCAA CUGAUGAG X CGAA AAUAUUA	666	ATATATTT T TTIGAAAT	1911
4110	AAUUCAA CUGAUGAG X CGAA AAAUAUA	667	TATATTTT T TTIGAAAT	1912
4111	UAAUUUA CUGAUGAG X CGAA AAAUAUA	668	ATATTTTT T TGAAATTA	1913
4112	GUAUUUC CUGAUGAG X CGAA AAAUAUA	669	TATTTTTT T GAAATTAC	1914
4118	AGCAUGU CUGAUGAG X CGAA AUUUCAAA	670	TTTGAAAT T ACATTGCT	1915
4119	AAGCAUG CUGAUGAG X CGAA AAUUCAA	671	TTGAAATT A CATTGCTT	1916
4123	AAACAAGC CUGAUGAG X CGAA AUGUAUUA	672	AATTACAT T GCTTGTTT	1917

Table IV. Hammerhead Ribozyme and Target Sequences

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4127	UGAUAAAC CUGAUGAG X CGAA AGCAAUGU	673	ACATTGCT T GTTTATCA	1918
4130	GUCUGAUA CUGAUGAG X CGAA ACAAGCAA	674	TTGCTTGT T TATCAGAC	1919
4131	UGUCUGAU CUGAUGAG X CGAA AACAAGCA	675	TGCTTGT T ATCAGACA	1920
4132	UUGUCUGA CUGAUGAG X CGAA AAACAAGC	676	GCTTGT T A TCAGACAA	1921
4134	AAUUGUCU CUGAUGAG X CGAA AUAAACAA	677	TTGTTTAT C AGACAATT	1922
4142	CUACAUUC CUGAUGAG X CGAA AUUGUCUG	678	CAGACAAT T GAATGTAG	1923
4149	AGAAUUC CUGAUGAG X CGAA ACAUUCAA	679	TTGAATGT A GTAATCT	1924
4152	AACAGAAU CUGAUGAG X CGAA ACUACAUU	680	AATGTAGT A ATCTGT	1925
4155	CAGAACAG CUGAUGAG X CGAA AUUACUAC	681	GTAGTAAT T CTGTCTG	1926
4156	CCAGAACA CUGAUGAG X CGAA AAUUCUA	682	TAGTAAT C TGTCTGG	1927
4160	AAAUCCAG CUGAUGAG X CGAA ACAGAAU	683	AATCTGT T CTGATTT	1928
4161	UAAAUCCA CUGAUGAG X CGAA AACAGAAU	684	ATCTGT C TGGATT	1929
4167	UCAAUUUA CUGAUGAG X CGAA AUCCAGAA	685	TTCTGGAT T TAATTGA	1930
4168	GUCAAUU CUGAUGAG X CGAA AAUCCAGA	686	TCGGATT T AATTGAC	1931
4169	AGUCAAAU CUGAUGAG X CGAA AAUCCAG	687	CTGGATT A ATTTGACT	1932
4172	CCCAGUCA CUGAUGAG X CGAA AUUAAUUC	688	GATTTAAT T TGACTGGG	1933
4173	ACCCAGUC CUGAUGAG X CGAA AAUUAUU	689	ATTTAATT T GACTGGGT	1934
4182	UGCAUGUU CUGAUGAG X CGAA ACCCAGUC	690	GACTGGGT T AACATGCA	1935
4183	UUGCAUGU CUGAUGAG X CGAA AACCCAGU	691	ACTGGGT A ACATGCAA	1936
4207	AAACUAAA CUGAUGAG X CGAA AUUUUUC	692	GGAAAAAT A TTTAGTT	1937
4209	AAAAACUA CUGAUGAG X CGAA AUUUUUU	693	AAAAATAT T TAGTTTT	1938
4210	AAAAACU CUGAUGAG X CGAA AAUUUUU	694	AAAATATT T AGTTTTT	1939
4211	AAAAAAC CUGAUGAG X CGAA AAUUUUU	695	AAATATT A GTTTTT	1940
4214	AAAAAAA CUGAUGAG X CGAA ACUAAUA	696	TATTTAGT T TTTTTT	1941
4215	AAAAAAA CUGAUGAG X CGAA AACUAAU	697	ATTTAGTT T TTTTTT	1942
4216	AAAAAAA CUGAUGAG X CGAA AAACUAA	698	TTTAGTT T TTTTTT	1943
4217	AAAAAAA CUGAUGAG X CGAA AAAACUA	699	TTAGTTT T TTTTTT	1944
4218	AAAAAAA CUGAUGAG X CGAA AAAACUA	700	TAGTTTT T TTTTTT	1945
4219	AAAAAAA CUGAUGAG X CGAA AAAAACU	701	AGTTTTT T TTTTTT	1946
4220	AAAAAAA CUGAUGAG X CGAA AAAAACAC	702	GTTTTTT T TTTTTT	1947
4221	AAAAAAA CUGAUGAG X CGAA AAAAAA	703	TTTTTTTT T TTTTTT	1948
4222	CAAAAAA CUGAUGAG X CGAA AAAAAA	704	TTTTTTTT T TTTTTTG	1949
4223	ACAAAAA CUGAUGAG X CGAA AAAAAA	705	TTTTTTTT T TTTTGT	1950
4224	UACAAAA CUGAUGAG X CGAA AAAAAA	706	TTTTTTTT T TTTTGT	1951
4225	AUACAAAA CUGAUGAG X CGAA AAAAAA	707	TTTTTTTT T TTTGTAT	1952
4226	UAUACAAA CUGAUGAG X CGAA AAAAAA	708	TTTTTTTT T TTGTATA	1953
4227	GUAUACAA CUGAUGAG X CGAA AAAAAA	709	TTTTTTTT T TGTATAC	1954
4228	AGUAUACA CUGAUGAG X CGAA AAAAAA	710	TTTTTTTT T TGTACT	1955
4229	AAGUAUAC CUGAUGAG X CGAA AAAAAA	711	TTTTTTTT T GTACTT	1956
4232	GAAAAGUA CUGAUGAG X CGAA ACAAAAA	712	TTTTTGT A TACTTT	1957
4234	UUGAAAAG CUGAUGAG X CGAA AUACAAA	713	TTTTGTAT A CTTTCAA	1958
4237	AGCUUGAA CUGAUGAG X CGAA AGUAUACA	714	TGTACT T TTCAAGCT	1959
4238	UAGCUUGA CUGAUGAG X CGAA AAGUAUAC	715	GTACTT T TCAAGCTA	1960
4239	GUAGCUUG CUGAUGAG X CGAA AAAGUAUA	716	TACTTT T CAAGCTAC	1961
4240	GGUAGCUU CUGAUGAG X CGAA AAAAGUAU	717	ATACTTT C AAGCTACC	1962



Table IV. Hammerhead Ribozyme and Targte Sequences

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4246	UGACAAGG CUGAUGAG X CGAA AGCUUGAA	718	TTCAAGCT A CCTTGICA	1963
4250	UACAUGAC CUGAUGAG X CGAA AGGUAGCU	719	AGCTACCT T GTCATGTA	1964
4253	GUUAUACAU CUGAUGAG X CGAA ACAAGGUA	720	TACCTTGT C ATGTATAC	1965
4258	UGACUGUA CUGAUGAG X CGAA ACAUGACA	721	TGTCATGT A TACAGTCA	1966
4260	AAUGACUG CUGAUGAG X CGAA AUACAUGA	722	TCATGTAT A CAGTCATT	1967
4265	GCAUAAAU CUGAUGAG X CGAA ACUGUAA	723	TATACAGT C ATTTATGC	1968
4268	UAGGCAUA CUGAUGAG X CGAA AUGACUGU	724	ACAGTCAT T TATGCCTA	1969
4269	UUAGGCAU CUGAUGAG X CGAA AAUGACUG	725	CAGTCATT T ATGCTAA	1970
4270	UUUAGGCA CUGAUGAG X CGAA AAAUGACU	726	AGTCATTT A TGCCTAAA	1971
4276	CCAGGCUU CUGAUGAG X CGAA AGGCAUAA	727	TTATGCCT A AAGCCTGG	1972
4289	AAAUGAAU CUGAUGAG X CGAA AUCACCAG	728	CTGGTGAT T ATTTCATTT	1973
4290	UAAAUUGA CUGAUGAG X CGAA AAUCACCA	729	TGGTGATT A TTTCATTA	1974
4292	UUUAAUUG CUGAUGAG X CGAA AUAAUCAC	730	GTGATTAT T CATTTAAA	1975
4293	AUUUAAAU CUGAUGAG X CGAA AAUAUACA	731	TGATTATT C ATTTAAAT	1976
4296	UUCAUUUA CUGAUGAG X CGAA AUGAAUAA	732	TTATTCAT T TAAATGAA	1977
4297	CUUCAUUU CUGAUGAG X CGAA AAUGAAUA	733	TATTCATT T AAATGAAG	1978
4298	UCUUCAUU CUGAUGAG X CGAA AAAUGAAU	734	ATTCATTT A AATGAAGA	1979
4308	UGAAUUGU CUGAUGAG X CGAA AUCUUCAU	735	ATGAAGAT C ACATTTCA	1980
4313	UGAUUGA CUGAUGAG X CGAA AUGUGAUC	736	GATCACAT T TCATATCA	1981
4314	UUGAUUG CUGAUGAG X CGAA AAUGUGAU	737	ATCACATT T CATATCAA	1982
4315	GUUGAUAU CUGAUGAG X CGAA AAAUGUGA	738	TCACATTT C ATATCAAC	1983
4318	AAAGUGA CUGAUGAG X CGAA AUGAAUUG	739	CATTTTCAT A TCAACTTT	1984
4320	CAAAAGUU CUGAUGAG X CGAA AUUUGAAA	740	TTTCATAT C AACTTTTG	1985
4325	GAUACAA CUGAUGAG X CGAA AGUUGAUA	741	TATCAACT T TIGTATCC	1986
4326	UGGAUACA CUGAUGAG X CGAA AAGUUGAU	742	ATCAACTT T TGTATCCA	1987
4327	GUGGAUAC CUGAUGAG X CGAA AAAGUGA	743	TCAACTTT T GTATCCAC	1988
4330	ACUGUGGA CUGAUGAG X CGAA ACAAAGU	744	ACTTTTGT A TCCACAGT	1989
4332	CUACUGUG CUGAUGAG X CGAA AUACAAA	745	TTTGTAT C CACAGTAG	1990
4339	AUUUUGUC CUGAUGAG X CGAA ACUGUGGA	746	TCCACAGT A GACAAAAT	1991
4348	AUUAGUGC CUGAUGAG X CGAA AUUUUGUC	747	GACAAAAT A GCACTAAT	1992
4354	AUCUGGAU CUGAUGAG X CGAA AGUGCUAU	748	ATAGCACT A ATCCAGAT	1993
4357	GGCAUCUG CUGAUGAG X CGAA AUUAGUGC	749	GCACTAAT C CAGATGCC	1994
4367	UCCAACAA CUGAUGAG X CGAA AGGCAUCU	750	AGATGCCT A TTGTTGGA	1995
4369	UAUCCAAC CUGAUGAG X CGAA AUAGGCAU	751	ATGCCTAT T GTTGGATA	1996
4372	CAUAUCC CUGAUGAG X CGAA ACAAUAGG	752	CCTATTGT T GGATATTG	1997
4377	UCAUCAA CUGAUGAG X CGAA AUCCAACA	753	TGTTGGAT A TTGAATGA	1998
4379	UGUCAUUC CUGAUGAG X CGAA AUAUCCA	754	TTGGATAT T GAATGACA	1999
4394	CUACAUA CUGAUGAG X CGAA AUUGUCUG	755	CAGACAAT C TTATGTAG	2000
4396	UGCUACAU CUGAUGAG X CGAA AGAUUGUC	756	GACAATCT T ATGTAGCA	2001
4397	UUGCUACA CUGAUGAG X CGAA AAGAUUGU	757	ACAATCTT A TGTAGCAA	2002
4401	AUCUUUGC CUGAUGAG X CGAA ACAUAAGA	758	TCTTATGT A GCAAAGAT	2003
4410	UCAGGCAU CUGAUGAG X CGAA AUCUUUGC	759	GCAAAGAT T ATGCTGAA	2004
4411	UUCAGGCA CUGAUGAG X CGAA AAUCUUG	760	CAAAGATT A TGCCTGAA	2005
4429	CCCUGAAU CUGAUGAG X CGAA AUUUUCCU	761	AGGAAAAT T ATTACAGG	2006
4430	GCCCUGAA CUGAUGAG X CGAA AAUUUCC	762	GGAAAATT A TTCAGGCG	2007

Table IV. Hammerhead Ribozyme and Targte Sequences

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4432	CUGCCCUG CUGAUGAG X CGAA AUAAUUUU	763	AAAATTAT T CAGGCGAG	2008
4433	GCUGCCCU CUGAUGAG X CGAA AAUAAUUU	764	AAATTATT C AGGCGAGC	2009
4443	AGCAAAAU CUGAUGAG X CGAA AGCUGCCC	765	GGGCGAGT A ATTTTGCT	2010
4446	AAAAGCAA CUGAUGAG X CGAA AUUAGCUG	766	CAGCTAAT T TTGCTTTT	2011
4447	UAAAAGCA CUGAUGAG X CGAA AAUAGCU	767	AGCTAATT T TGCTTTTA	2012
4448	GUAAAAGC CUGAUGAG X CGAA AAUUAAGC	768	GCTAATTT T GCTTTTAC	2013
4452	UUUGGUAA CUGAUGAG X CGAA AGCAAAAU	769	ATTTTGCT T TTACCAAA	2014
4453	UUUUGGUA CUGAUGAG X CGAA AAGCAAAA	770	TTTTGCTT T TACCAAAA	2015
4454	AUUUUGGU CUGAUGAG X CGAA AAAGCAAA	771	TTTGCTTT T ACCAAAAT	2016
4455	UAUUUUGG CUGAUGAG X CGAA AAAAGCAA	772	TTGCTTTT A CCAAAATA	2017
4463	ACUACUGA CUGAUGAG X CGAA AUUUUGGU	773	ACCAAAAT A TCAGTAGT	2018
4465	UUACUACU CUGAUGAG X CGAA AUUUUUUG	774	CAAAATAT C AGTAGTAA	2019
4469	AAUUAUAC CUGAUGAG X CGAA ACUGAUAU	775	ATATCAGT A GTAATATT	2020
4472	AAAAUAU CUGAUGAG X CGAA ACUACUGA	776	TCAGTAGT A ATATTTTT	2021
4475	UCCAAAAA CUGAUGAG X CGAA AUUACUAC	777	GTAGTAAT A TTTTGGGA	2022
4477	UGUCCAAA CUGAUGAG X CGAA AUUUUACU	778	AGTAATAT T TTTGGACA	2023
4478	CUGUCCAA CUGAUGAG X CGAA AAUUAUAC	779	GTAATATT T TTGGACAG	2024
4479	ACUGUCCA CUGAUGAG X CGAA AAUAUUA	780	TAATATTT T TGGACAGT	2025
4480	UACUGUCC CUGAUGAG X CGAA AAAUAUUA	781	AATATTTT T GGACAGTA	2026
4488	CCAUUAGC CUGAUGAG X CGAA ACUGUCCA	782	TGGACAGT A GCTAATGG	2027
4492	UGACCCAU CUGAUGAG X CGAA AGCUACUG	783	CAGTAGCT A ATGGGICA	2028
4499	AACCCACU CUGAUGAG X CGAA ACCCAUUA	784	TAATGGGT C AGTGGGTT	2029
4507	UAAAAAAG CUGAUGAG X CGAA ACCCACUG	785	CAGTGGGT T CTTTTTAA	2030
4508	AUUAAAAA CUGAUGAG X CGAA AACCCACU	786	AGTGGGTT C TTTTAAAT	2031
4510	ACAUUAAA CUGAUGAG X CGAA AGAACCCA	787	TGGGTTCCT T TTTAATGT	2032
4511	AACAUUAA CUGAUGAG X CGAA AAGAACCC	788	GGGTTCCT T TTAATGTT	2033
4512	AAACAUUA CUGAUGAG X CGAA AAAGAACC	789	GGTTCCTT T TAATGTTT	2034
4513	UAAACAUU CUGAUGAG X CGAA AAAAGAAC	790	GTTCCTTT T AATGTTTA	2035
4514	AUAAACAU CUGAUGAG X CGAA AAAAAGAA	791	TTCTTTTT A ATGTTTAT	2036
4519	UAAGUAUA CUGAUGAG X CGAA ACAUUAAA	792	TTTAATGT T TATCTTAA	2037
4520	CUAAGUAU CUGAUGAG X CGAA AACAUUAA	793	TTAATGTT T ATACTTAG	2038
4521	UCUAAGUA CUGAUGAG X CGAA AAACAUUA	794	TAATGTTT A TACTTAGA	2039
4523	AAUCUAAG CUGAUGAG X CGAA AUAAACAU	795	ATGTTTAT A CTTAGATT	2040
4526	GAAAAUCU CUGAUGAG X CGAA AGUAUAAA	796	TTTATACT T AGATTTTC	2041
4527	AGAAAAUC CUGAUGAG X CGAA AAGUAUAA	797	TTTACTTT A GATTTTCT	2042
4531	UAAAAGAA CUGAUGAG X CGAA AUCUAAGU	798	ACTTAGAT T TTCTTTTA	2043
4532	UAAAAAGA CUGAUGAG X CGAA AAUCUAAG	799	CTTAGATT T TCTTTTAA	2044
4533	UUUAAAAG CUGAUGAG X CGAA AAUUCUAA	800	TTAGATTT T CTTTAAAA	2045
4534	UUUUAAAA CUGAUGAG X CGAA AAAAUCUA	801	TAGATTTT C TTTTAAAA	2046
4536	UUUUUUAA CUGAUGAG X CGAA AGAAAAUC	802	GATTTTCT T TTAaaaaa	2047
4537	UUUUUUUA CUGAUGAG X CGAA AAGAAAAU	803	ATTTTCTT T TAAAAAAA	2048
4538	AUUUUUUU CUGAUGAG X CGAA AAAGAAAA	804	TTTTCTTT T AAAAAAAT	2049
4539	AAUUUUUU CUGAUGAG X CGAA AAAAGAAA	805	TTTCTTTT A AAAAAATT	2050
4547	UUUAUUUU CUGAUGAG X CGAA AUUUUUUU	806	AAAAAAT T AAAATAAA	2051
4548	UUUUAUUU CUGAUGAG X CGAA AAUUUUUU	807	AAAAAATT A AAATAAAA	2052

Table IV. Hammerhead Ribozyme and Targte Sequences

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4553	UUUUGUUU CUGAUGAG X CGAA AUUUUAAU	808	ATTAAAAT A AAACAAAA	2053
4567	GUCCUAGA CUGAUGAG X CGAA AUUUUUUU	809	AAAAAAAT T TCTAGGAC	2054
4568	AGUCCUAG CUGAUGAG X CGAA AAUUUUUU	810	AAAAAATT T CTAGGACT	2055
4569	UAGUCCUA CUGAUGAG X CGAA AAUUUUUU	811	AAAAATTT C TAGGACTA	2056
4571	UCUAGUCC CUGAUGAG X CGAA AGAAAUUU	812	AAATTTCT A GGACTAGA	2057
4577	ACAUCGUC CUGAUGAG X CGAA AGUCCUAG	813	CTAGGACT A GACGATGT	2058
4586	GCUGGUAU CUGAUGAG X CGAA ACAUCGUC	814	GACGATGT A ATACCAGC	2059
4589	UUAGCUGG CUGAUGAG X CGAA AUUACAUC	815	GATGTAAT A CCAGCTAA	2060
4596	UUUGGCUU CUGAUGAG X CGAA AGCUGGUA	816	TACCAGCT A AAGCCAAA	2061
4609	CACUGUAU CUGAUGAG X CGAA AUUGUUUG	817	CAAACAAT T ATACAGTG	2062
4610	CCACUGUA CUGAUGAG X CGAA AAUUGUUU	818	AAACAATT A TACAGTGG	2063
4612	UUCCACUG CUGAUGAG X CGAA AUAAUUGU	819	ACAATTAT A CAGTGGAA	2064
4624	UAAUGUAA CUGAUGAG X CGAA ACCUCCA	820	TGGAAGGT T TTACATT	2065
4625	AUAAUGUA CUGAUGAG X CGAA AACCUCC	821	GGAAGGTT T TACATTAT	2066
4626	AAUAAUGU CUGAUGAG X CGAA AAACCUUC	822	GAAGGTTT T ACATTATT	2067
4627	GAAUAAUG CUGAUGAG X CGAA AAAACCUU	823	AAGGTTTT A CATTATTC	2068
4631	GGAUGAAU CUGAUGAG X CGAA AUGUAAAA	824	TTTTACAT T ATTATCC	2069
4632	UGGAUGAA CUGAUGAG X CGAA AAUGUAAA	825	TTTACATT A TTATCCA	2070
4634	AUUGGAUG CUGAUGAG X CGAA AUAAUGUA	826	TACATTAT T CATCCAAT	2071
4635	CAUUGGAU CUGAUGAG X CGAA AAUAAUGU	827	ACATTATT C ATCCAATG	2072
4638	ACACAUUG CUGAUGAG X CGAA AUGAAUAA	828	TTATTCAT C CAATGTGT	2073
4647	UGAAUAGA CUGAUGAG X CGAA ACACAUUG	829	CAATGTGT T TCTATTCA	2074
4648	AUGAAUAG CUGAUGAG X CGAA AACACAUU	830	AATGIGTT T CTATTCAT	2075
4649	CAUGAAUA CUGAUGAG X CGAA AAACACAU	831	ATGIGTTT C TATTCATG	2076
4651	AACAUCAA CUGAUGAG X CGAA AGAAACAC	832	GIGTTTCT A TTATGTT	2077
4653	UUAACAUG CUGAUGAG X CGAA AUAGAAAC	833	GTTTCTAT T CATGTTAA	2078
4654	CUAACAUA CUGAUGAG X CGAA AAUAGAAA	834	TTTCTATT C ATGTTAAG	2079
4659	AGUAUCUU CUGAUGAG X CGAA ACAUGAAU	835	ATTCATGT T AAGATACT	2080
4660	UAGUAUCU CUGAUGAG X CGAA AACAUCAA	836	TTATGTTT A AGATACTA	2081
4665	UGUAGUAG CUGAUGAG X CGAA AUCUUAAC	837	GTTAGAT A CTACTACA	2082
4668	AAAUAGUAG CUGAUGAG X CGAA AGUAUCUU	838	AAGATACT A CTACATTT	2083
4671	UUCAAAUG CUGAUGAG X CGAA AGUAGUAU	839	ATACTACT A CATTTGAA	2084
4675	CCACUUA CUGAUGAG X CGAA AUGUAGUA	840	TACTACAT T TGAAGTGG	2085
4676	CCCACUUC CUGAUGAG X CGAA AAUGUAGU	841	ACTACATT T GAAGTGGG	2086
4695	AAUCAUCU CUGAUGAG X CGAA AUGUUCUC	842	GAGAACAT C AGATGATT	2087
4703	AACAUUUC CUGAUGAG X CGAA AUCAUCUG	843	CAGATGAT T GAAATGTT	2088
4711	CCUGGGCG CUGAUGAG X CGAA ACAUUUCA	844	TGAAATGT T CGCCAGG	2089
4712	CCUGGGC CUGAUGAG X CGAA AACAUUUC	845	GAAATGTT C GCCAGGG	2090
4723	UUGCUGGA CUGAUGAG X CGAA ACCCCUGG	846	CCAGGGGT C TCCAGCAA	2091
4725	AGUUCUG CUGAUGAG X CGAA AGACCCCU	847	AGGGGCT C CAGCAACT	2092
4734	GAUUUCCA CUGAUGAG X CGAA AGUUCUG	848	CAGCAACT T TGGAAATC	2093
4735	AGAUUCC CUGAUGAG X CGAA AAGUUCU	849	AGCAACTT T GGAAATCT	2094
4742	UACAAAGA CUGAUGAG X CGAA AUUUCCAA	850	TTGGAAAT C TCTTGTA	2095
4744	AAUACAAA CUGAUGAG X CGAA AGAUUCC	851	GGAAATCT C TTGTATT	2096
4746	AAAUAJACA CUGAUGAG X CGAA AGAGAUUU	852	AAATCTCT T TGTATTTT	2097

4747	AAAAAUAC CUGAUGAG X CGAA AAGAGAUU	853	AATCTCTT T GTATTTTT	2098
4750	AGUAAAAA CUGAUGAG X CGAA ACAAAGAG	854	CTCTTTGT A TTTTACT	2099
4752	CAAGUAAA CUGAUGAG X CGAA AUACAAAG	855	CTTTGTAT T TTTACTTG	2100
4753	UCAAGUAA CUGAUGAG X CGAA AAUACAAA	856	TTTGTATT T TTACTTGA	2101
4754	UUCAAGUA CUGAUGAG X CGAA AAUACAA	857	TTGTATTT T TACTTGAA	2102
4755	CUUCAAGU CUGAUGAG X CGAA AAAAUACA	858	TGTATTTT T ACTTGAAG	2103
4756	ACUUCAAG CUGAUGAG X CGAA AAAAUAC	859	GTATTTTT A CTTGAAGT	2104
4759	GGCACUUC CUGAUGAG X CGAA AGUAAAAA	860	TTTTTACT T GAAGTGCC	2105
4771	CUGUCCAU CUGAUGAG X CGAA AGUGGCAC	861	GTGCCACT A ATGGACAG	2106
4785	CCAGAAAA CUGAUGAG X CGAA AUCUGCUG	862	CAGCAGAT A TTTTCTGG	2107
4787	AGCCAGAA CUGAUGAG X CGAA AUAUCUGC	863	GCAGATAT T TTCTGGCT	2108
4788	CAGCCAGA CUGAUGAG X CGAA AAUAUCUG	864	CAGATATT T TCTGGCTG	2109
4789	UCAGCCAG CUGAUGAG X CGAA AAUAUCU	865	AGATATTT T CTGGCTGA	2110
4790	AUCAGCCA CUGAUGAG X CGAA AAAUAUC	866	GATATTTT C TGGCTGAT	2111
4801	CCAUAJCC CUGAUGAG X CGAA ACAUCAGC	867	GCTGATGT T GGTATTTG	2112
4805	ACACCCAA CUGAUGAG X CGAA ACCAACAU	868	ATGTGGT A TTGGGTGT	2113
4807	CUACACCC CUGAUGAG X CGAA AUACCAAC	869	GTGGGTAT T GGGGTAG	2114
4814	CAUGUCC CUGAUGAG X CGAA ACACCCAA	870	TTGGGTGT A GGAACATG	2115
4825	UUUUUUUA CUGAUGAG X CGAA AUCAUGU	871	AACATGAT T TAAAAAA	2116
4826	UUUUUUU CUGAUGAG X CGAA AAUCAUGU	872	ACATGATT T AAAAAAA	2117
4827	UUUUUUU CUGAUGAG X CGAA AAUCAUG	873	CATGATT A AAAAAAA	2118
4839	AGAGGCAA CUGAUGAG X CGAA AGUUUUU	874	AAAAAACT C TTGCTCT	2119
4841	GCAGAGGC CUGAUGAG X CGAA AGAGUUU	875	AAAACCTT T GCCTCTGC	2120
4846	GGAAAGCA CUGAUGAG X CGAA AGGCAAGA	876	TCTTGCT C TGCTTTCC	2121
4851	GUGGGGGA CUGAUGAG X CGAA AGCAGAGG	877	CCTCTGCT T TCCCCAC	2122
4852	AGUGGGGG CUGAUGAG X CGAA AAGCAGAG	878	CTCTGCTT T CCCCCACT	2123
4853	GAGUGGGG CUGAUGAG X CGAA AAAGCAGA	879	TCTGCTTT C CCCCCTC	2124
4861	UUGCCUCA CUGAUGAG X CGAA AGUGGGGG	880	CCCCCACT C TGAGGCAA	2125
4872	UACAUUUU CUGAUGAG X CGAA ACUUGCCU	881	AGGCAAGT T AAAATGTA	2126
4873	UUACAUUU CUGAUGAG X CGAA AACUUGCC	882	GGCAAGTT A AAATGTAA	2127
4880	ACAUCUUU CUGAUGAG X CGAA ACAUUUUA	883	TAAAATGT A AAAGATGT	2128
4892	CCCAGAU CUGAUGAG X CGAA AUCACAU	884	GATGTGAT T TATCTGGG	2129
4893	CCCCAGAU CUGAUGAG X CGAA AAUCACAU	885	ATGTGATT T ATCTGGGG	2130
4894	CCCCCAGA CUGAUGAG X CGAA AAUCACA	886	TGTGATT A TCTGGGGG	2131
4896	GCCCCCA CUGAUGAG X CGAA AUAAAUCA	887	TGATTTAT C TGGGGGGC	2132
4906	CCAUACCU CUGAUGAG X CGAA AGCCCCC	888	GGGGGGCT C AGGTATGG	2133
4911	CCCCACCA CUGAUGAG X CGAA ACCUGAGC	889	GCTCAGGT A TGGTGGGG	2134
4928	GAUCCUG CUGAUGAG X CGAA AUCCACU	890	AAGTGGAT T CAGGAATC	2135
4929	AGAUCCU CUGAUGAG X CGAA AAUCCACU	891	AGTGGATT C AGGAATCT	2136
4936	AUCCCCA CUGAUGAG X CGAA AUUCCUGA	892	TCAGGAAT C TGGGAAT	2137
4952	UCUAAUA CUGAUGAG X CGAA AUUUGCCA	893	TGGCAAAT A TATTAAGA	2138
4954	CUUCUUA CUGAUGAG X CGAA AUAUUUGC	894	GCAAATAT A TTAAGAAG	2139
4956	CUCUUCU CUGAUGAG X CGAA AUAUUUU	895	AAATATAT T AAGAAGAG	2140
4957	ACUCUUCU CUGAUGAG X CGAA AAUAUAU	896	AATATATT A AGAAGAGT	2141
4966	ACUUUCA CUGAUGAG X CGAA ACUCUUCU	897	AGAAGAGT A TTGAAGT	2142

4968	AUACUUUC CUGAUGAG X CGAA AUACUCUU	898	AAGAGTAT T GAAAGTAT	2143
4975	CCUCCAAA CUGAUGAG X CGAA ACUUUCAA	899	TTGAAAGT A TTTGGAGG	2144
4977	UUCCUCCA CUGAUGAG X CGAA AUACUUUC	900	GAAAGTAT T TGGAGGAA	2145
4978	UUUCCUCC CUGAUGAG X CGAA AAUACUUU	901	AAAGTATT T GGAGGAAA	2146
4992	CCAGAAUU CUGAUGAG X CGAA ACCAUUUU	902	AAAATGGT T AATTCCTG	2147
4993	CCCAGAAU CUGAUGAG X CGAA AACCAUUU	903	AAATGGTT A ATTCTGGG	2148
4996	ACACCCAG CUGAUGAG X CGAA AUUAACCA	904	TGGTTAAT T CTGGGTGT	2149
4997	CACACCCA CUGAUGAG X CGAA AAUUAACC	905	GGTTAATT C TGGGTGTG	2150
5015	CUCUACUG CUGAUGAG X CGAA ACCUUGGU	906	ACCAAGGT T CAGTAGAG	2151
5016	ACUCUACU CUGAUGAG X CGAA AACCUUGG	907	CCAAGGTT C AGTAGAGT	2152
5020	GUGGACUC CUGAUGAG X CGAA ACUGAACC	908	GGTTCAGT A GAGTCCAC	2153
5025	CAGAAGUG CUGAUGAG X CGAA ACUCUACU	909	AGTAGAGT C CACTTCCTG	2154
5030	CAGGGCAG CUGAUGAG X CGAA AGUGGACU	910	AGTCCACT T CTGCCCTG	2155
5031	CCAGGGCA CUGAUGAG X CGAA AAGUGGAC	911	GTCCACTT C TGCCCTGG	2156
5051	AGCUAGUU CUGAUGAG X CGAA AUUUGUGG	912	CCACAAAT C AACTAGCT	2157
5056	AAUGGAGC CUGAUGAG X CGAA AGUUGAUU	913	AATCAACT A GCTCCATT	2158
5060	UGUAAAUUG CUGAUGAG X CGAA AGCUAGUU	914	AACTAGCT C CATTTACA	2159
5064	UGGCUGUA CUGAUGAG X CGAA AUGGAGCU	915	AGCTCCAT T TACAGCCA	2160
5065	AUGGCUGU CUGAUGAG X CGAA AAUGGAGC	916	GCTCCATT T ACAGCCAT	2161
5066	AAUGGCUG CUGAUGAG X CGAA AAAUGGAG	917	CTCCATTT A CAGCCATT	2162
5074	AUUUUAGA CUGAUGAG X CGAA AUGGCUGU	918	ACAGCCAT T TCTAAAAT	2163
5075	CAUUUUAG CUGAUGAG X CGAA AAUGGCUG	919	CAGCCATT T CTAAAATG	2164
5076	CCAUUUUA CUGAUGAG X CGAA AAAUGGCU	920	AGCCATTT C TAAAATGG	2165
5078	UGCCAUUU CUGAUGAG X CGAA AGAAAUUG	921	CCATTTCT A AAATGGCA	2166
5090	UAGAACUG CUGAUGAG X CGAA AGCUGCCA	922	TGGCAGCT T CAGTTCTA	2167
5091	CUAGAACU CUGAUGAG X CGAA AAGCUGCC	923	GGCAGCTT C AGTTCTAG	2168
5095	UUCUCUAG CUGAUGAG X CGAA ACUGAAGC	924	GCTTCAGT T CTAGAGAA	2169
5096	CUUCUCUA CUGAUGAG X CGAA AACUGAAG	925	CTTCAGTT C TAGAGAAG	2170
5098	UUCUUCUC CUGAUGAG X CGAA AGAACUGA	926	TCAGTTCT A GAGAAGAA	2171
5117	UUACUGCU CUGAUGAG X CGAA AUGUUGUU	927	AACAACAT C AGCAGTAA	2172
5124	AUGGACUU CUGAUGAG X CGAA ACUGCUGA	928	TCAGCAGT A AAGTCCAT	2173
5129	AUCCAUG CUGAUGAG X CGAA ACUUUACU	929	AGTAAAGT C CATGGAAT	2174
5138	CCACUAGC CUGAUGAG X CGAA AUCCAUG	930	CATGGAAT A GCTAGTGG	2175
5142	CAGACCAC CUGAUGAG X CGAA AGCUAUUC	931	GAATAGCT A GTGGTCTG	2176
5148	GAAACACA CUGAUGAG X CGAA ACCACUAG	932	CTAGTGGT C TGIGTTTC	2177
5154	CGAAAAGA CUGAUGAG X CGAA ACACAGAC	933	GTCTGTGT T TCTTTTCG	2178
5155	GCGAAAAG CUGAUGAG X CGAA AACACAGA	934	TCGTGTGT T CTTTTCGC	2179
5156	GGCGAAA CUGAUGAG X CGAA AAACACAG	935	CTGTGTGT C TTTTCGCC	2180
5158	AUGGCGAA CUGAUGAG X CGAA AGAAACAC	936	GTTTCTCT T TTGCCAT	2181
5159	AAUGGCGA CUGAUGAG X CGAA AAGAAACA	937	TGTTCTCT T TCGCCATT	2182
5160	CAUUGGCG CUGAUGAG X CGAA AAAGAAAC	938	GTTCCTCT T CGCCATTG	2183
5161	GCAUUGGC CUGAUGAG X CGAA AAAAGAAA	939	TTCTCTCT C GCCATTGC	2184
5167	AGCUAGGC CUGAUGAG X CGAA AUGGCGAA	940	TTGCCCAT T GCTAGCT	2185
5172	CGCAAGC CUGAUGAG X CGAA AGGCAUUG	941	CATTGCTT A GCTTGCCG	2186
5176	AUUACGGC CUGAUGAG X CGAA AGCUAGGC	942	GCTAGCT T GCGTAAT	2187



Table IV. Hammerhead ribozyme and Target Sequences

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5182	AGAAUCAU CUGAUGAG X CGAA ACGGCAAG	943	CTTGCCGT A ATGATTCT	2188
5188	CAUUAUAG CUGAUGAG X CGAA AUCAUAC	944	GTAATGAT T CTATAATG	2189
5189	GCAUUAUA CUGAUGAG X CGAA AAUCAUA	945	TAATGATT C TATAATGC	2190
5191	UGGCAUUA CUGAUGAG X CGAA AGAAUCAU	946	ATGATTCT A TAATGCCA	2191
5193	GAUGGCAU CUGAUGAG X CGAA AUAGAALC	947	GATTCTAT A ATGCCATC	2192
5201	UGCUGCAU CUGAUGAG X CGAA AUGGCAU	948	AATGCCAT C ATGCAGCA	2193
5212	CCUCUCAU CUGAUGAG X CGAA AUUGCUGC	949	GCAGCAAT T ATGAGAGG	2194
5213	GCCUCUCA CUGAUGAG X CGAA AAUUGCUG	950	CAGCAATT A TGAGAGGC	2195
5223	GGAUGACC CUGAUGAG X CGAA AGCCUCUC	951	GAGAGGCT A GGTTCATCC	2196
5227	CUUUGGAU CUGAUGAG X CGAA ACCUAGCC	952	GGCTAGGT C ATCCAAAG	2197
5230	UCUCUUUG CUGAUGAG X CGAA AUGACCUA	953	TAGGTCAT C CAAAGAGA	2198
5246	UACAUUGA CUGAUGAG X CGAA AGGGUCUU	954	AAGACCTT A TCAATGTA	2199
5248	CCUACAUA CUGAUGAG X CGAA AUAGGGUC	955	GACCTTAT C AATGTAGG	2200
5254	UUGCAACC CUGAUGAG X CGAA ACAUUGAU	956	ATCAATGT A GGTTCGAA	2201
5258	GAUUUUGC CUGAUGAG X CGAA ACCUACA	957	ATGTAGGT T GCAAAATC	2202
5266	AGGGGUUA CUGAUGAG X CGAA AUUUUGCA	958	TGCAAAAT C TAACCCCT	2203
5268	UUAGGGGU CUGAUGAG X CGAA AGAUUUUG	959	CAAAATCT A ACCCCTAA	2204
5275	CACUCCU CUGAUGAG X CGAA AGGGGUUA	960	TAACCCCT A AGGAAGTG	2205
5288	AAAUCAA CUGAUGAG X CGAA ACUGCACU	961	AGTGCAGT C TTTGATTT	2206
5290	UCAAUA CUGAUGAG X CGAA AGACUGCA	962	TGCAGTCT T TGATTGTA	2207
5291	AUCAAUC CUGAUGAG X CGAA AAGACUGC	963	GCAGTCTT T GATTTGAT	2208
5295	GGAAUA CUGAUGAG X CGAA AUCAAAGA	964	TCTTGAT T TGATTTC	2209
5296	GGGAAU CUGAUGAG X CGAA AAUCAAAG	965	CTTGATT T GATTTC	2210
5300	ACUAGGA CUGAUGAG X CGAA AUCAAUC	966	GATTGAT T TCCCTAGT	2211
5301	UACUAGG CUGAUGAG X CGAA AAUCAAU	967	ATTGATT T CCTAGTA	2212
5302	UUACUAG CUGAUGAG X CGAA AAUCAA	968	TTTGATT C CCTAGTA	2213
5306	AAGGUAC CUGAUGAG X CGAA AGGGAAU	969	ATTTCCT A GTAACCTT	2214
5309	UGCAAGG CUGAUGAG X CGAA ACUAGGA	970	TCCCTAGT A ACCTTGCA	2215
5314	AUAUCUG CUGAUGAG X CGAA AGGUACU	971	AGTAACCT T GCAGATAT	2216
5321	GUAAACA CUGAUGAG X CGAA AUCUGCA	972	TTCAGAT A TGTTTAAC	2217
5325	CUUGGUUA CUGAUGAG X CGAA ACAUAUCU	973	AGATATGT T TAACCAAG	2218
5326	GCUUGGU CUGAUGAG X CGAA AACUAUC	974	GATATGTT T AACCAAGC	2219
5327	GGCUUGG CUGAUGAG X CGAA AAACAUAU	975	ATATGTTT A ACCAAGCC	2220
5338	GCAUGGC CUGAUGAG X CGAA AUGGCUUG	976	CAAGCCAT A GCCCATGC	2221
5349	GCCUCA CUGAUGAG X CGAA AGGCAUGG	977	CCATGCC T TTGAGGC	2222
5350	AGCCUCA CUGAUGAG X CGAA AAGGCAUG	978	CATGCC T TTGAGGCT	2223
5351	CAGCCUC CUGAUGAG X CGAA AAAGGCAU	979	ATGCC T TTGAGGCT	2224
5367	AAGUCCU CUGAUGAG X CGAA AUUUGUUC	980	GAACAAAT A AGGGACTT	2225
5375	UUAUCAGU CUGAUGAG X CGAA AGUCCCUU	981	AAGGGACT T ACTGATAA	2226
5376	AUUAUCAG CUGAUGAG X CGAA AAGUCCU	982	AGGGACTT A CTGATAAT	2227
5382	AAGUAAU CUGAUGAG X CGAA AUCAGUA	983	TTACTGAT A ATTACTT	2228
5385	CAAAAGUA CUGAUGAG X CGAA AUUAUCAG	984	CTGATAAT T TACTTTTG	2229
5386	UCAAAGU CUGAUGAG X CGAA AAUUAUCA	985	TGATAATT T ACTTTTGA	2230
5387	AUCAAAG CUGAUGAG X CGAA AAUUAUC	986	GATAATT A CTTTTGAT	2231
5390	GUGAUCAA CUGAUGAG X CGAA AGUAAAU	987	AATTACT T TTGATCAC	2232

Table IV. Hammerhead Ribozyme and Target Sequences

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5391	UGUGAUC CUGAUGAG X CGAA AAGUAAU	988	ATTTACTT T TGATCACA	2233
5392	AUGUGAUC CUGAUGAG X CGAA AAAGUAAA	989	TTTACTTT T GATCACAT	2234
5396	CUUAAUGU CUGAUGAG X CGAA AUCAAAAG	990	CTTTTGAT C ACATTAG	2235
5401	AACACCUU CUGAUGAG X CGAA AUGUGAUC	991	GATCACAT T AAGGTGTT	2236
5402	GAACACCU CUGAUGAG X CGAA AAUGUGAU	992	ATCACATT A AGGIGTTC	2237
5409	AAGGUGAG CUGAUGAG X CGAA ACACCUUA	993	TAAGGTGT T CTCACCTT	2238
5410	CAAGGUGA CUGAUGAG X CGAA AACACCUU	994	AAGGTGTT C TCACCTTG	2239
5412	UUAAGGU CUGAUGAG X CGAA AGAACACC	995	GGTGTCT C ACCTTGAA	2240
5417	AAGAUUC CUGAUGAG X CGAA AGGUGAGA	996	TCTACCT T GAAATCTT	2241
5423	GUGUAUAA CUGAUGAG X CGAA AUUUAAG	997	CTTGAAAT C TTATACAC	2242
5425	CAGUGAU CUGAUGAG X CGAA AGAUULCA	998	TGAAATCT T ATACACTG	2243
5426	UCAGUGA CUGAUGAG X CGAA AAGAUUC	999	GAAATCTT A TACACTGA	2244
5428	UUUCAGUG CUGAUGAG X CGAA AUAAGAUU	1000	AATCTTAT A CACTGAAA	2245
5444	CCUAAUUC CUGAUGAG X CGAA AUGGCCAU	1001	ATGGCCAT T GATTTAGG	2246
5448	GUGGCCUA CUGAUGAG X CGAA AUCAUUG	1002	CCATTGAT T TAGGCCAC	2247
5449	AGUGGCCU CUGAUGAG X CGAA AAUCAUUG	1003	CATTGATT T AGGCCACT	2248
5450	CAGUGGCC CUGAUGAG X CGAA AAAUCAU	1004	ATTGATTT A GGCCACTG	2249
5462	AGUACUCU CUGAUGAG X CGAA AGCCAGUG	1005	CACTGGCT T AGAGTACT	2250
5463	GAGUACUC CUGAUGAG X CGAA AAGCCAGU	1006	ACTGGCTT A GAGTACTC	2251
5468	GGAAGGAG CUGAUGAG X CGAA ACUCUAAG	1007	CTTAGAGT A CTCCTTCC	2252
5471	AGGGGAAG CUGAUGAG X CGAA AGUACUCU	1008	AGAGTACT C CTTCCTCT	2253
5474	UGCAGGGG CUGAUGAG X CGAA AGGAGUAC	1009	GTACTCCT T CCCCTGCA	2254
5475	AUGCAGGG CUGAUGAG X CGAA AAGGAGUA	1010	TACTCCTT C CCCTGCAT	2255
5493	GUAUUUGU CUGAUGAG X CGAA AUCAGUGU	1011	ACACTGAT T ACAAATAC	2256
5494	AGUAUUUG CUGAUGAG X CGAA AAUCAGUG	1012	CACTGATT A CAAATACT	2257
5500	UAGGAAAG CUGAUGAG X CGAA AUUUGUAA	1013	TTACAAAT A CTTTCTTA	2258
5503	GAAUAGGA CUGAUGAG X CGAA AGUAUUUG	1014	CAAATACT T TCCTATTTC	2259
5504	UGAAUAGG CUGAUGAG X CGAA AAGUAUUU	1015	AAATACTT T CCTATTCA	2260
5505	AUGAAUAG CUGAUGAG X CGAA AAAGUAUU	1016	AATACTTT C CTATTTCAT	2261
5508	AGUAUGAA CUGAUGAG X CGAA AGGAAAGU	1017	ACTTTCCT A TTCATACT	2262
5510	AAAGUAUG CUGAUGAG X CGAA AUAGGAAA	1018	TTTCTTAT T CATACTTT	2263
5511	GAAAGUAU CUGAUGAG X CGAA AAUAGGAA	1019	TTCTTATT C ATACTTTC	2264
5514	UUGGAAAG CUGAUGAG X CGAA AUGAAUAG	1020	CTATTTCAT A CTTTCCAA	2265
5517	UAAUUGGA CUGAUGAG X CGAA AGUAUGAA	1021	TTCATACT T TCCAATTTA	2266
5518	AUAUUGG CUGAUGAG X CGAA AAGUAUGA	1022	TCATACTT T CCAATTAT	2267
5519	CAUAUUG CUGAUGAG X CGAA AAAGUAUG	1023	CATACTTT C CAATTATG	2268
5524	CAUCUCAU CUGAUGAG X CGAA AUUGGAAA	1024	TTTCCAAT T ATGAGATG	2269
5525	CCAUCUCA CUGAUGAG X CGAA AAUUGGAA	1025	TTTCAATT A TGAGATGG	2270
5543	ACUCCAG CUGAUGAG X CGAA ACCACAG	1026	CTGTGGGT A CTGGGAGT	2271
5555	GUGUAGU CUGAUGAG X CGAA AUCACUCC	1027	GGAGTGAT C ACTAACAC	2272
5559	UAUGGUGU CUGAUGAG X CGAA AGUGAUC	1028	TGATCACT A ACACCATA	2273
5567	GACAUUAC CUGAUGAG X CGAA AUGGUGUU	1029	AACACCAT A GTAATGIC	2274
5570	UUAGACAU CUGAUGAG X CGAA ACUAUGGU	1030	ACCATAGT A ATGICTAA	2275
5575	GAAUAUUA CUGAUGAG X CGAA ACAUUAU	1031	AGTAATGT C TAATATTC	2276
5577	GUGAAUUA CUGAUGAG X CGAA AGACAUUA	1032	TAATGTCT A ATATTCAC	2277

Table IV. Primerhead Enzyme and Target Sequences

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5580	CCUGUGAA CUGAUGAG X CGAA AUUAGACA	1033	TGICTAAT A TTCACAGG	2278
5582	UGCCUGUG CUGAUGAG X CGAA AUUUAAGA	1034	TCTAATAT T CACAGGCA	2279
5583	CUGCCUGU CUGAUGAG X CGAA AAUUAUAG	1035	CTAATATT C ACAGGCAG	2280
5594	CCCAAGCA CUGAUGAG X CGAA AUCUGCCU	1036	AGGCAGAT C TGCTTGGG	2281
5599	GCUUCCCC CUGAUGAG X CGAA AGCAGALC	1037	GATCTGCT T GGGGAAGC	2282
5609	CACAUAAAC CUGAUGAG X CGAA AGCUUCCC	1038	GGGAAGCT A GTTATGTG	2283
5612	UUUCACAU CUGAUGAG X CGAA ACUAGCUU	1039	AAGCTAGT T ATGTGAAA	2284
5613	CUUUCACA CUGAUGAG X CGAA AACUAGCU	1040	AGCTAGTT A TGTGAAAG	2285
5628	UAUGACUU CUGAUGAG X CGAA AUUUGCCU	1041	AGGCAAAT A AAGTCATA	2286
5633	UACUGUAU CUGAUGAG X CGAA ACUUUAUJ	1042	AATAAAGT C ATACAGTA	2287
5636	AGCUACUG CUGAUGAG X CGAA AUGACUUU	1043	AAAGTCAT A CAGTAGCT	2288
5641	UUUUGAGC CUGAUGAG X CGAA ACUGUAUG	1044	CATACAGT A GCTCAAAA	2289
5645	UGCCUUUU CUGAUGAG X CGAA AGCUACUG	1045	CAGTAGCT C AAAAGGCA	2290
5659	AAGAGAAU CUGAUGAG X CGAA AUGGUUGC	1046	GCAACCAT A ATTCTCTT	2291
5662	CCAAAGAG CUGAUGAG X CGAA AUUAUGGU	1047	ACCATAAT T CTCTTTGG	2292
5663	ACCAAAGA CUGAUGAG X CGAA AAUUAUGG	1048	CCATAATT C TCTTTGGT	2293
5665	GCACCAA CUGAUGAG X CGAA AGAAUUAU	1049	ATAATICT C TTGGTGGC	2294
5667	UUGCACCA CUGAUGAG X CGAA AGAGAAUJ	1050	AATICTCT T TGGTGCAA	2295
5668	CUUGCACC CUGAUGAG X CGAA AAGAGAAU	1051	ATTCTCTT T GGTGCAAG	2296
5678	GCUCCCAA CUGAUGAG X CGAA ACUUGCAC	1052	GTGCAAGT C TTGGGAGC	2297
5680	ACGCUCCC CUGAUGAG X CGAA AGACUUGC	1053	GCAAGTCT T GGGAGCGT	2298
5692	GUAUUCUA CUGAUGAG X CGAA AUCACGCU	1054	AGCGTGAT C TAGATTAC	2299
5694	GUGUAUUC CUGAUGAG X CGAA AGAUCACG	1055	CGTGATCT A GATTACAC	2300
5698	UGCAGUGU CUGAUGAG X CGAA AUCUAGAU	1056	ATCTAGAT T AACTGCA	2301
5699	GUGCAGUG CUGAUGAG X CGAA AAUCUAGA	1057	TCTAGATT A CACTGCAC	2302
5711	AACUUGGG CUGAUGAG X CGAA AUGGUGCA	1058	TGCACCAT T CCAAGTT	2303
5712	UAACUUGG CUGAUGAG X CGAA AAUGGUGC	1059	GCACCATT C CCAAGTTA	2304
5719	AGGGGAUJ CUGAUGAG X CGAA ACUUGGGA	1060	TCCCAAGT T AATCCCT	2305
5720	CAGGGGAU CUGAUGAG X CGAA AACUUGGG	1061	CCCAAGTT A ATCCCTG	2306
5723	UUUCAGGG CUGAUGAG X CGAA AUUAACUU	1062	AAGTTAAT C CCTGAAA	2307
5735	UUGAGAGU CUGAUGAG X CGAA AGUUUUA	1063	TGAAAACT T ACTCTCAA	2308
5736	GUUGAGAG CUGAUGAG X CGAA AAGUUUUC	1064	GAAAACTT A CTCTCAAC	2309
5739	CCAGUUGA CUGAUGAG X CGAA AGUAAGUU	1065	AACTTACT C TCAACTGG	2310
5741	CUCCAGUU CUGAUGAG X CGAA AGAGUAAG	1066	CTTACTCT C AACTGGAG	2311
5760	UGGGACCA CUGAUGAG X CGAA AGUUCAUJ	1067	AATGAACT T TGGTCCCA	2312
5761	UUGGGACC CUGAUGAG X CGAA AAGUUCAU	1068	ATGAACTT T GGTCCCAA	2313
5765	AUAUUUGG CUGAUGAG X CGAA ACCAAAGU	1069	ACTTTGGT C CCAAATAT	2314
5772	AAGAUGGA CUGAUGAG X CGAA AUUUGGGA	1070	TCCCAAAT A TCCATCTT	2315
5774	AAAAGAUG CUGAUGAG X CGAA AUUAUUUGG	1071	CCAAATAT C CATCTTTT	2316
5778	ACUGAAAA CUGAUGAG X CGAA AUGGAUUAJ	1072	ATATCCAT C TTTTCAGT	2317
5780	CUACUGAA CUGAUGAG X CGAA AGAUGGAU	1073	ATCCATCT T TTCAGTAG	2318
5781	GCUACUGA CUGAUGAG X CGAA AAGAUGGA	1074	TCCATCTT T TCAGTAGC	2319
5782	CGCUACUG CUGAUGAG X CGAA AAAGAUGG	1075	CCATCTTT T CAGTAGCG	2320
5783	ACGCUACU CUGAUGAG X CGAA AAAAGAUG	1076	CATCTTTT C AGTAGCGT	2321
5787	AUUAACGC CUGAUGAG X CGAA ACUGAAAA	1077	TTTTTCAGT A GCGTTAAT	2322

Table IV. Hammerhead Ribozyme and Targte Sequences

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5792	GCAUAAUU CUGAUGAG X CGAA ACGCUACU	1078	AGTAGCGT T AATTATGC	2323
5793	AGCAUAAU CUGAUGAG X CGAA AACGCUAC	1079	GTAGCGTT A ATTATGCT	2324
5796	CAGAGCAU CUGAUGAG X CGAA AUUAACGC	1080	GCGTTAAT T ATGCTCTG	2325
5797	ACAGAGCA CUGAUGAG X CGAA AAUUAACG	1081	CGTTAATT A TGCTCTGT	2326
5802	UGGAAACA CUGAUGAG X CGAA AGCAUAAU	1082	ATTATGCT C TGTTTCCA	2327
5806	CAGUUGGA CUGAUGAG X CGAA ACAGAGCA	1083	TGCTCTGT T TCCAACGT	2328
5807	GCAGUUGG CUGAUGAG X CGAA AACAGAGC	1084	GCTCTGTT T CCAACTGC	2329
5808	UGCAGUUG CUGAUGAG X CGAA AAACAGAG	1085	CCTCTGTT C CAACTGCA	2330
5818	GGAAAGGA CUGAUGAG X CGAA AUGCAGUU	1086	AACTGCAT T TCCTTTCC	2331
5819	UGGAAAGG CUGAUGAG X CGAA AAUGCAGU	1087	ACTGCATT T CCTTTCCA	2332
5820	UUGGAAAG CUGAUGAG X CGAA AAAUGCAG	1088	CTGCATTT C CTTTCCAA	2333
5823	CAAUUGGA CUGAUGAG X CGAA AGGAAUUG	1089	CATTTTCT T TCCAATTG	2334
5824	UCAAUUGG CUGAUGAG X CGAA AAGGAAU	1090	ATTTCCTT T CCAATTGA	2335
5825	UUCAAUUG CUGAUGAG X CGAA AAAGGAAA	1091	TTTCCTTT C CAATTGAA	2336
5830	UUUAAUUC CUGAUGAG X CGAA AUUGGAAA	1092	TTTCCAAT T GAATTAAA	2337
5835	CACACUUU CUGAUGAG X CGAA AUUCAAUU	1093	AATTGAAT T AAAGTGIG	2338
5836	CCACACUU CUGAUGAG X CGAA AAUUCAAU	1094	ATTGAATT A AAGTGIGG	2339
5848	CUAAAAAC CUGAUGAG X CGAA AGGCCACA	1095	TGTGGCCT C GTTTTTAG	2340
5851	UGACUAAA CUGAUGAG X CGAA ACGAGGCC	1096	GGCTCGT T TTTAGTCA	2341
5852	AUGACUAA CUGAUGAG X CGAA AACGAGGC	1097	GCCTCGTT T TTAGTCAT	2342
5853	AAUGACUA CUGAUGAG X CGAA AAACGAGG	1098	CCTCGTTT T TAGTCATT	2343
5854	AAAUGACU CUGAUGAG X CGAA AAAACGAG	1099	CCTCGTTT T AGTCATTT	2344
5855	UAAUGAC CUGAUGAG X CGAA AAAAACGA	1100	TCGTTTTT A GTCATTTA	2345
5858	UUUAAAAU CUGAUGAG X CGAA ACUAAAAA	1101	TTTTTAGT C ATTTAAAA	2346
5861	CAAUUUUA CUGAUGAG X CGAA AUGACUAA	1102	TTAGTCAT T TAAATTG	2347
5862	ACAAUUUU CUGAUGAG X CGAA AAUGACUA	1103	TAGTCATT T AAAATTGT	2348
5863	AACAAUUU CUGAUGAG X CGAA AAAUGACU	1104	AGTCATT A AAATTGTT	2349
5868	UAGAAAAC CUGAUGAG X CGAA AUUUUAAA	1105	TTTAAAAT T GTTTTCTA	2350
5871	ACUUGAG CUGAUGAG X CGAA ACAAUUUU	1106	AAAATTGT T TTCTAAGT	2351
5872	UACUUGA CUGAUGAG X CGAA AACAAUUU	1107	AAATTGTT T TCTAAGTA	2352
5873	UUACUUG CUGAUGAG X CGAA AAACA AUU	1108	AATTGTTT T CTAAGTAA	2353
5874	AUUACUUA CUGAUGAG X CGAA AAAACA AU	1109	ATIGTTTT C TAAGTAAT	2354
5876	CAAUUACU CUGAUGAG X CGAA AGAAAACA	1110	TGTTTTCT A AGTAATTG	2355
5880	GCAGCAAU CUGAUGAG X CGAA ACUUGAGAA	1111	TTCTAAGT A ATTGCTGC	2356
5883	GAGGCAGC CUGAUGAG X CGAA AUUACUUA	1112	TAAGTAAT T GCTGCCCT	2357
5891	CCAUAAUA CUGAUGAG X CGAA AGGCAGCA	1113	TGCTGCCCT C TATTATGG	2358
5893	UGCCAUAA CUGAUGAG X CGAA AGAGGCAG	1114	CTGCCCT A TTATGGCA	2359
5895	AGUGCCAU CUGAUGAG X CGAA AUAGAGGC	1115	GCCTCTAT T ATGGCACT	2360
5896	AAGUGCCA CUGAUGAG X CGAA AAUAGAGG	1116	CCTCTATT A TGGCACTT	2361
5904	CAAAAUUG CUGAUGAG X CGAA AGUGCCAU	1117	ATGGCACT T CAATTTTG	2362
5905	GCAAAAUU CUGAUGAG X CGAA AAGUGCCA	1118	TGGCACTT C AATTTTGC	2363
5909	CAGUGCAA CUGAUGAG X CGAA AUUGAAGU	1119	ACTTCAAT T TTGCACTG	2364
5910	ACAGUGCA CUGAUGAG X CGAA AAUUGAAG	1120	CTTCAATT T TGCACGT	2365
5911	GACAGUGC CUGAUGAG X CGAA AAUUGGAA	1121	TTCAATTT T GCACGTG	2366
5919	UCUCAAAA CUGAUGAG X CGAA ACAGUGCA	1122	TGCACGT C TTTTGAGA	2367

Table IV. Hammerhead Ribozyme and Targte Sequences

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5921	AAUCUCAA CUGAUGAG X CGAA AGACAGUG	1123	CACIGICT T TTGAGATT	2368
5922	GAAUCUCA CUGAUGAG X CGAA AAGACAGU	1124	ACTGICTT T TGAGATT C	2369
5923	UGAAUCUC CUGAUGAG X CGAA AAAGACAG	1125	CTGICTTT T GAGATTCA	2370
5929	UUUUCUUG CUGAUGAG X CGAA AUCUCAA	1126	TTTGAGAT T CAAGAAAA	2371
5930	UUUUUCUU CUGAUGAG X CGAA AAUCUCAA	1127	TTGAGATT C AAGAAAAA	2372
5940	UGAAUAGA CUGAUGAG X CGAA AUUUUUUCU	1128	AGAAAAAT T TCTATTCA	2373
5941	AUGAAUAG CUGAUGAG X CGAA AAUUUUUC	1129	GAAAAATT T CTATTICAT	2374
5942	AAUGAAUA CUGAUGAG X CGAA AAAUUUUU	1130	AAAAATTT C TATTICATT	2375
5944	AAAAUGAA CUGAUGAG X CGAA AGAAAUUU	1131	AAATTTCT A TTCATTTT	2376
5946	AAAAAAUG CUGAUGAG X CGAA AUAGAAAU	1132	ATTTCTAT T CATTTTTT	2377
5947	AAAAAAAU CUGAUGAG X CGAA AAUAGAAA	1133	TTTCTATT C ATTTTTTT	2378
5950	UGCAAAAA CUGAUGAG X CGAA AUGAAUAG	1134	CTATTICAT T TTTTTCAT	2379
5951	AUGCAAAA CUGAUGAG X CGAA AAUGAAUA	1135	TATTICATT T TTTTTCAT	2380
5952	GAUGCAAA CUGAUGAG X CGAA AAAUGAAU	1136	ATTCATTT T TTTTTCAT	2381
5953	GGAUGCAA CUGAUGAG X CGAA AAAAUGAA	1137	TTCATTTT T TTGTCATC	2382
5954	UGGAUGCA CUGAUGAG X CGAA AAAAUGA	1138	TCATTTTT T TGCAATCA	2383
5955	UUGGAUGC CUGAUGAG X CGAA AAAAAUG	1139	CATTTTTT T GCATCCAA	2384
5960	CACAAUUG CUGAUGAG X CGAA AUGCAAAA	1140	TTTTTCAT C CAATTGIG	2385
5965	UCAGGCAC CUGAUGAG X CGAA AUUGGAUG	1141	CATCCAAT T GIGCTGA	2386
5977	UAUUUUA CUGAUGAG X CGAA AGUUCAGG	1142	CCTGAACT T TTAAATA	2387
5978	AUAUUUA CUGAUGAG X CGAA AAGUUCAG	1143	CTGAACTT T TAAATAT	2388
5979	CAUAUUU CUGAUGAG X CGAA AAAGUUA	1144	TGAACCTT T AAAATATG	2389
5980	ACAUAUU CUGAUGAG X CGAA AAAAGUUC	1145	GAACTTTT A AAATATGT	2390
5985	CAUUUACA CUGAUGAG X CGAA AUUUUAAA	1146	TTTAAAT A TGTAATG	2391
5989	GCAGCAUU CUGAUGAG X CGAA ACAUAUUU	1147	AAATATGT A AATGCTGC	2392
6003	GGGUUUG CUGAUGAG X CGAA ACAUGGCA	1148	TGCCATGT T CCAAACCC	2393
6004	UGGUUUG CUGAUGAG X CGAA AACAUGGC	1149	GCCATGTT C CAAACCCA	2394
6014	ACACUGAC CUGAUGAG X CGAA AUGGUUU	1150	AAACCCAT C GTCAGTGT	2395
6017	CACACACU CUGAUGAG X CGAA ACGAUGG	1151	CCCATCGT C AGTGTGTG	2396
6029	CAGCUCUA CUGAUGAG X CGAA ACACACAC	1152	GTGTGTGT T TAGAGCTG	2397
6030	ACAGCUCU CUGAUGAG X CGAA AACACACA	1153	TGTGTGTT T AGAGCTGT	2398
6031	CACAGCUC CUGAUGAG X CGAA AACACAC	1154	GTGTGTTT A GAGCTGTG	2399
6046	GUUGUUUC CUGAUGAG X CGAA AGGGUGCA	1155	TGCACCTT A GAAACAAC	2400
6057	GGGACAAG CUGAUGAG X CGAA AUGUUGUU	1156	AACAACAT A CTGTGCCC	2401
6060	CAUGGGAC CUGAUGAG X CGAA AGUAUGUU	1157	AACATACT T GTCCCATG	2402
6063	GCUCAUG CUGAUGAG X CGAA ACAAGUAU	1158	ATACTTGT C CCATGAGC	2403
6095	UGAAUGCA CUGAUGAG X CGAA AGGGGUCU	1159	AGACCCCT T TGCATTCA	2404
6096	GUGAUGC CUGAUGAG X CGAA AAGGGGUC	1160	GACCCCTT T GCATTAC	2405
6101	UCUCUGUG CUGAUGAG X CGAA AUGCAAAG	1161	CTTTGCAT T CACAGAGA	2406
6102	CUCUCUGU CUGAUGAG X CGAA AAUGCAAA	1162	TTTTCATT C ACAGAGAG	2407
6113	UAACCAAU CUGAUGAG X CGAA ACCUCUCU	1163	AGAGAGGT C ATTGGTTA	2408
6116	CUAUAACC CUGAUGAG X CGAA AUGACCUC	1164	GAGGTTCAT T GGTATATG	2409
6120	GUCUCUAU CUGAUGAG X CGAA ACCAAUGA	1165	TCATIGGT T ATAGAGAC	2410
6121	AGUCUCUA CUGAUGAG X CGAA AACCAAUG	1166	CATIGGT A TAGAGACT	2411
6123	CAAGUCUC CUGAUGAG X CGAA AUAACCAA	1167	TTGGTTAT A GAGACTTG	2412



Table IV. Hammerhead Ribozyme and Targte Sequences

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6130	AUUAUUC CUGAUGAG X CGAA AGUCUCUA	1168	TAGAGACT T GAATTAAT	2413
6135	CACUUAU CUGAUGAG X CGAA AUUCAAGU	1169	ACTTGAAT T AATAAGTG	2414
6136	UCACUUAU CUGAUGAG X CGAA AAUUCAAG	1170	CTTGAATT A ATAAGTGA	2415
6139	AUGUCACU CUGAUGAG X CGAA AUUAUUC	1171	GAATTAAT A AGTGACAT	2416
6148	ACUGGCAU CUGAUGAG X CGAA AUGUCACU	1172	AGTGACAT T ATGCCAGT	2417
6149	AACUGGCA CUGAUGAG X CGAA AAUGUCAC	1173	GTGACATT A TGCCAGTT	2418
6157	AGAACAGA CUGAUGAG X CGAA ACUGGCAU	1174	ATGCCAGT T TCIGTTCT	2419
6158	GAGAACAG CUGAUGAG X CGAA AACUGGCA	1175	TGCCAGTT T CTGTCTCT	2420
6159	AGAGAACA CUGAUGAG X CGAA AAACUGGC	1176	GCCAGTTT C TGTCTCT	2421
6163	UGUGAGAG CUGAUGAG X CGAA ACAGAAAC	1177	GTTTCTGT T CTCTCACA	2422
6164	CUGUGAGA CUGAUGAG X CGAA AACAGAAA	1178	TTTCTGTT C TCTCACAG	2423
6166	ACCUGUGA CUGAUGAG X CGAA AGAACAGA	1179	TCTGTCTCT C TCACAGGT	2424
6168	UCACUGU CUGAUGAG X CGAA AGAGAACA	1180	TGTCTCTCT C ACAGGTGA	2425
6178	GCAUUGUU CUGAUGAG X CGAA AUCACUG	1181	CAGGTGAT A AACAATGC	2426
6188	UGCACAAA CUGAUGAG X CGAA AGCAUUGU	1182	ACAATGCT T TTGTGCA	2427
6189	GUGCACAA CUGAUGAG X CGAA AAGCAUUG	1183	CAATGCTT T TTGTGCAC	2428
6190	AGUGCACA CUGAUGAG X CGAA AAAGCAU	1184	AATGCTTT T TGIGCACT	2429
6191	UAGUGCAC CUGAUGAG X CGAA AAAAGCAU	1185	ATGCTTTT T GTGACTA	2430
6199	AGAGUAUG CUGAUGAG X CGAA AGUGCACA	1186	TGTGCACT A CATACTCT	2431
6203	CUGAAGAG CUGAUGAG X CGAA AUGUAGUG	1187	CACACAT A CTCTCAG	2432
6206	ACACUGAA CUGAUGAG X CGAA AGUAUGUA	1188	TACATACT C TTCAGTGT	2433
6208	CUACACUG CUGAUGAG X CGAA AGAGUAUG	1189	CATACTCT T CAGTGTAG	2434
6209	UCUACACU CUGAUGAG X CGAA AAGAGUAU	1190	ATACTCTT C AGTGTAGA	2435
6215	AAGAGCUC CUGAUGAG X CGAA ACACUGAA	1191	TTCAGTGT A GAGCTCTT	2436
6221	UAAAACAA CUGAUGAG X CGAA AGCUCUAC	1192	GTAGAGCT C TTGTTTIA	2437
6223	CAUAAAAC CUGAUGAG X CGAA AGAGCUCU	1193	AGAGCTCT T GTTTTATG	2438
6226	UCCCAUAA CUGAUGAG X CGAA ACAAGAGC	1194	GCCTTGT T TTATGGGA	2439
6227	UUCCAUUA CUGAUGAG X CGAA AACAAGAG	1195	CTCTTGT T TATGGGAA	2440
6228	UUUCCAU CUGAUGAG X CGAA AAACAAGA	1196	TCTTGT T ATGGGAAA	2441
6229	UUUUCCA CUGAUGAG X CGAA AAAACAAG	1197	CTTGT T TGGGAAAA	2442
6242	UGGCAUUU CUGAUGAG X CGAA AGCCUUUU	1198	AAAAGGCT C AAATGCCA	2443
6254	UCAACAC CUGAUGAG X CGAA AUUUGGCA	1199	TGCCAAAT T GTGTTGA	2444
6259	AUCCAUA CUGAUGAG X CGAA ACACAAU	1200	AATIGTGT T TGATGGAT	2445
6260	AAUCCAUC CUGAUGAG X CGAA AACACAAU	1201	ATIGTGT T GATGGATT	2446
6268	GGCAUAU CUGAUGAG X CGAA AUCCAUA	1202	TGATGGAT T AATATGCC	2447
6269	GGGCAUAU CUGAUGAG X CGAA AAUCCAUC	1203	GATGGATT A ATATGCC	2448
6272	AAAGGGCA CUGAUGAG X CGAA AUUAUCC	1204	GGATTAAT A TGCCCTTT	2449
6279	AUCGGCAA CUGAUGAG X CGAA AGGGCAUA	1205	TATGCCCT T TTGGGAT	2450
6280	CAUCGGCA CUGAUGAG X CGAA AAGGGCAU	1206	ATGCCCTT T TGCCGATG	2451
6281	GCAUCGGC CUGAUGAG X CGAA AAAGGGCA	1207	TGCCCTTT T GCGATGC	2452
6292	AGUAUAG CUGAUGAG X CGAA AUGCAUCG	1208	CGATGCAT A CTATTACT	2453
6295	AUCAGUAA CUGAUGAG X CGAA AGUAUGCA	1209	TGCATACT A TTACTGAT	2454
6297	ACAUCAGU CUGAUGAG X CGAA AUAGUAUG	1210	CATACTAT T ACTGATGT	2455
6298	CACAUCA CUGAUGAG X CGAA AAUAGUAU	1211	ATACTATT A CTGATGIG	2456
6310	ACAAAACC CUGAUGAG X CGAA AGUCACAU	1212	ATGTGACT C GGTTTGT	2457

Table IV. Hammerhead Ribozyme and Target Sequences

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6314	UGCGACAA CUGAUGAG X CGAA ACCGAGUC	1213	GACTCGGT T TTGTGCA	2458
6315	CUGCGACA CUGAUGAG X CGAA AACCGAGU	1214	ACTCGGTT T TGTCGAG	2459
6316	GCUGCGAC CUGAUGAG X CGAA AAACCGAG	1215	CTCGGTTT T GTGCGAG	2460
6319	AAAGCUGC CUGAUGAG X CGAA ACAAACC	1216	GGTTTGT C GCAGCTT	2461
6326	ACAAAGCA CUGAUGAG X CGAA AGCUGCA	1217	TCGCAGCT T TGCTTGT	2462
6327	AACAAAGC CUGAUGAG X CGAA AAGCUGCG	1218	CGCAGCTT T GCTTGT	2463
6331	AUUAACA CUGAUGAG X CGAA AGCAAAGC	1219	GCTTTGCT T TGTTAAT	2464
6332	CAUUAAC CUGAUGAG X CGAA AAGCAAAG	1220	CTTTGCTT T GTTTAATG	2465
6335	UUUCAUUA CUGAUGAG X CGAA ACAAAGCA	1221	TGCTTGT T TAATGAA	2466
6336	GUUCAU CUGAUGAG X CGAA AACAAAGC	1222	GCTTTGT T AATGAAAC	2467
6337	UGUUCAU CUGAUGAG X CGAA AAACAAG	1223	CTTTGTT A ATGAAACA	2468
6350	AGGUUAC CUGAUGAG X CGAA AGUGUGU	1224	AACACACT T GTAAACCT	2469
6353	AAGAGGU CUGAUGAG X CGAA ACAAGUGU	1225	ACACTGT A AACCTCT	2470
6359	GUGCAAAA CUGAUGAG X CGAA AGGUUAC	1226	GTAAACCT C TTTTGCAC	2471
6361	AAGUGCA CUGAUGAG X CGAA AGAGGUU	1227	AAACCTCT T TTGCCTT	2472
6362	AAAGUGCA CUGAUGAG X CGAA AAGAGGU	1228	AACCTCT T TGCCTTT	2473
6363	CAAAGUC CUGAUGAG X CGAA AAAGAGGU	1229	ACCTCTT T GCACTTG	2474
6369	CUUUUCA CUGAUGAG X CGAA AGUGCAA	1230	TTTGCACT T TGAAAAG	2475
6370	UCUUUUC CUGAUGAG X CGAA AAGUGCA	1231	TTGCCTT T GAAAAGA	2476
6381	UCCCGCUG CUGAUGAG X CGAA AUUCUUU	1232	AAAAGAAT C CAGCGGA	2477
6394	AGGUGCUC CUGAUGAG X CGAA AGCAUCC	1233	GGGATGCT C GAGCACCT	2478
6405	AAAUUGU CUGAUGAG X CGAA ACAGGUC	1234	GCACCTGT A AACAATTT	2479
6412	GUUGAGAA CUGAUGAG X CGAA AUUGUUA	1235	TAAACAAT T TTCTAAC	2480
6413	GGUUGAGA CUGAUGAG X CGAA AAUUGUU	1236	AAACAATT T TCTAAC	2481
6414	AGGUUGAG CUGAUGAG X CGAA AAUUGUU	1237	AACAATTT T CTCAACCT	2482
6415	UAGGUUGA CUGAUGAG X CGAA AAAUUGU	1238	ACAATTTT C TCAACCTA	2483
6417	AAUAGGU CUGAUGAG X CGAA AGAAAAU	1239	AATTTTCT C AACCTATT	2484
6423	ACAUCAAA CUGAUGAG X CGAA AGGUUGAG	1240	CTCAACCT A TTGATGT	2485
6425	GAACAUCA CUGAUGAG X CGAA AUAGGUU	1241	CAACCTAT T TGATGTC	2486
6426	UGAACAU CUGAUGAG X CGAA AAUAGGU	1242	AACCTATT T GATGTCA	2487
6432	UUUAUUG CUGAUGAG X CGAA ACAUCAA	1243	TTGATGT T CAAATAA	2488
6433	CUUAUUU CUGAUGAG X CGAA AACAUCA	1244	TTGATGT C AAATAAG	2489
6438	UAUUCU CUGAUGAG X CGAA AUUGAAC	1245	GTCAAT A AAGAATTA	2490

Table V. Hairpin Ribozyme and Target sequences

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Pos	RZ	Seq. ID. No.	Substrate	Seq. ID. No.
48	GCCAGG AGAA GUUG ACCAGAGAAACA X GUACAUUACCUUGUA	2491	CAAC AGTC CCTGGC	2604
58	CUGAG AGAA GCCA ACCAGAGAAACA X GUACAUUACCUUGUA	2492	TGGC CGTC CTCAG	2605
172	CGACCC AGAA GAGC ACCAGAGAAACA X GUACAUUACCUUGUA	2493	GCTC CGTC GGGTCG	2606
184	CGUGA AGAA GCGC ACCAGAGAAACA X GUACAUUACCUUGUA	2494	CGCC GCGT TCACCG	2607
193	CCUGCG AGAA GGUG ACCAGAGAAACA X GUACAUUACCUUGUA	2495	CACC GGAC CGCAGG	2608
297	GAAACC AGAA GGGC ACCAGAGAAACA X GUACAUUACCUUGUA	2496	GGCC CGCC GGTTC	2609
301	CUCAGA AGAA GCGC ACCAGAGAAACA X GUACAUUACCUUGUA	2497	CGCC GGTTC TCTGAG	2610
316	CCGACG AGAA GAAG ACCAGAGAAACA X GUACAUUACCUUGUA	2498	CTTC TGGC CTCGG	2611
332	GUUGCA AGAA GUUU ACCAGAGAAACA X GUACAUUACCUUGUA	2499	ACAC GGTC TGCACC	2612
343	GCCGCG AGAA GGGU ACCAGAGAAACA X GUACAUUACCUUGUA	2500	ACCC TGGC CGCGGC	2613
356	GUCAUG AGAA GUUG ACCAGAGAAACA X GUACAUUACCUUGUA	2501	CCAC GGAC CATGAC	2614
410	CCUUGG AGAA GAUG ACCAGAGAAACA X GUACAUUACCUUGUA	2502	CATC AGAT CCAAGG	2615
442	GCUGCG AGAA GUUC ACCAGAGAAACA X GUACAUUACCUUGUA	2503	GAAC CGTC CGCAGC	2616
449	AUCUUG AGAA GCGG ACCAGAGAAACA X GUACAUUACCUUGUA	2504	CCGC AGCT CAAGAT	2617
470	CCCAGG AGAA GCUC ACCAGAGAAACA X GUACAUUACCUUGUA	2505	GAGC GGCC CCTGGG	2618
507	GUACAC AGAA GGUU ACCAGAGAAACA X GUACAUUACCUUGUA	2506	AGCC CGCC GTGTAC	2619
534	CUCGUA AGAA GCGC ACCAGAGAAACA X GUACAUUACCUUGUA	2507	GCGC CGCC TACGAG	2620
555	GCGGCG AGAA GCGG ACCAGAGAAACA X GUACAUUACCUUGUA	2508	CCGC GGCC GCCGCC	2621
558	GUUGGC AGAA GCCG ACCAGAGAAACA X GUACAUUACCUUGUA	2509	CGGC CGCC GCCAAC	2622
584	AGGCCG AGAA GACC ACCAGAGAAACA X GUACAUUACCUUGUA	2510	GGTC AGAC CGGCCT	2623
589	AGGGGA AGAA GUUC ACCAGAGAAACA X GUACAUUACCUUGUA	2511	GACC GGCC TCCCTT	2624
601	ACCCGG AGAA GUAG ACCAGAGAAACA X GUACAUUACCUUGUA	2512	CTAC GGCC CCGGGT	2625
628	CGUUGG AGAA GAAC ACCAGAGAAACA X GUACAUUACCUUGUA	2513	GTTC GGCT CCAACG	2626
637	CCCCCA AGAA GUUG ACCAGAGAAACA X GUACAUUACCUUGUA	2514	CAAC GGCC TGGGGG	2627
680	AGCAUC AGAA GGUU ACCAGAGAAACA X GUACAUUACCUUGUA	2515	AGCC CGCT GATGCT	2628
683	AGUAGC AGAA GCGG ACCAGAGAAACA X GUACAUUACCUUGUA	2516	CCGC TGAT GCTACT	2629
698	UGCGGC AGAA GGUG ACCAGAGAAACA X GUACAUUACCUUGUA	2517	CACC CGCC GCCGCA	2630
701	AGTUGC AGAA GCGG ACCAGAGAAACA X GUACAUUACCUUGUA	2518	CCGC CGCC GCAGCT	2631

Table V. Hairpin Ribozyme and Target sequences

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707	GGCGAC AGAA GCGG ACCAGAGAAACA X GUACAUUACCUGUA	2519	CCGC AGCT GTCGCC	2632
710	AAAGGC AGAA GCUG ACCAGAGAAACA X GUACAUUACCUGUA	2520	CAGC TGTC GCCTTT	2633
725	CCGUGG AGAA GCAG ACCAGAGAAACA X GUACAUUACCUGUA	2521	CTGC AGCC CCACGG	2634
793	CCGGCG AGAA GCGC ACCAGAGAAACA X GUACAUUACCUGUA	2522	GGCC GGCC CGCCGG	2635
797	AAUGCC AGAA GCGC ACCAGAGAAACA X GUACAUUACCUGUA	2523	GGCC CGCC GGCATT	2636
1078	GGAGCC AGAA GCGC ACCAGAGAAACA X GUACAUUACCUGUA	2524	GGCC TGCC GGCCTC	2637
1082	UUGCGG AGAA GCGA ACCAGAGAAACA X GUACAUUACCUGUA	2525	TGCC GGCT CCGCAA	2638
1206	GUUCC AGAA GACC ACCAGAGAAACA X GUACAUUACCUGUA	2526	GGTC TGCT GGAGAC	2639
1244	AUCAUG AGAA GCGU ACCAGAGAAACA X GUACAUUACCUGUA	2527	AGCC CGCT CATGAT	2640
1273	AGGCCA AGAA GUUC ACCAGAGAAACA X GUACAUUACCUGUA	2528	GAAC AGCC TGGCCT	2641
1289	UCGGCC AGAA GGGG ACCAGAGAAACA X GUACAUUACCUGUA	2529	TCCC TGAC GGCCGA	2642
1293	CUGGUC AGAA GUCA ACCAGAGAAACA X GUACAUUACCUGUA	2530	TGAC GGCC GACCAG	2643
1296	CAUCUG AGAA GCGG ACCAGAGAAACA X GUACAUUACCUGUA	2531	CGGC CGAC CAGATG	2644
1301	CUGACC AGAA GGUC ACCAGAGAAACA X GUACAUUACCUGUA	2532	GACC AGAT GGTGAG	2645
1363	UGAAGG AGAA GGUA ACCAGAGAAACA X GUACAUUACCUGUA	2533	TACC AGAC CCTTCA	2646
1397	AGGUG AGAA GUAA ACCAGAGAAACA X GUACAUUACCUGUA	2534	TTAC TGAC CAACCT	2647
1520	CCAUC AGAA GGAU ACCAGAGAAACA X GUACAUUACCUGUA	2535	ATCC TGAT GATTGG	2648
1568	GGAGCA AGAA GUAG ACCAGAGAAACA X GUACAUUACCUGUA	2536	CTAC TGTT TGCTCC	2649
1643	GUAGCC AGAA GCAU ACCAGAGAAACA X GUACAUUACCUGUA	2537	ATGC TGCT GGCTAC	2650
1661	AUGCGG AGAA GAGA ACCAGAGAAACA X GUACAUUACCUGUA	2538	TCTC GGT CCGCAT	2651
1745	GUGCUG AGAA GAAA ACCAGAGAAACA X GUACAUUACCUGUA	2539	TTTC TGTC CAGCAC	2652
1826	UUGGCC AGAA GGUG ACCAGAGAAACA X GUACAUUACCUGUA	2540	CACC TGAT GGCCAA	2653
1844	UGCAGG AGAA GGCC ACCAGAGAAACA X GUACAUUACCUGUA	2541	GGCC TGAC CCTGCA	2654
1868	UGGGCC AGAA GCUG ACCAGAGAAACA X GUACAUUACCUGUA	2542	CAGC GGCT GGCCCA	2655
1877	AGGAGG AGAA GGGC ACCAGAGAAACA X GUACAUUACCUGUA	2543	GGCC AGCT CCTCCT	2656
1976	UCCAGC AGAA GGUC ACCAGAGAAACA X GUACAUUACCUGUA	2544	GACC TGCT GCTGGA	2657
1979	AUCUCC AGAA GCAG ACCAGAGAAACA X GUACAUUACCUGUA	2545	CTGC TGCT GGAGAT	2658
2002	CAUGUA AGAA GUGG ACCAGAGAAACA X GUACAUUACCUGUA	2546	CCAC CGCC TACATG	2659
2049	GUUUG AGAA GUUU ACCAGAGAAACA X GUACAUUACCUGUA	2547	AGAC GGAC CAAAGC	2660
2142	CUCUCA AGAA GUGG ACCAGAGAAACA X GUACAUUACCUGUA	2548	CCAC AGTC TGAGAG	2661

Table V. Hairpin Ribozyme and Target sequences

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2169	UAUCUG AGAA GUGU ACCAGAGAACA X GUACAUUACCUUGUA	2549	ACAC GGT CAGATA	2662
2184	AAAUUC AGAA GCGA ACCAGAGAACA X GUACAUUACCUUGUA	2550	TCCC TGCT GCATT	2663
2226	GCAGGA AGAA GAU ACCAGAGAACA X GUACAUUACCUUGUA	2551	ATTC TGTC TCCTGC	2664
2301	ACUAAG AGAA GAGC ACCAGAGAACA X GUACAUUACCUUGUA	2552	GCTC AGTT CTTAGT	2665
2322	ACAGAA AGAA GAAG ACCAGAGAACA X GUACAUUACCUUGUA	2553	CTTC TGTC TTCTGT	2666
2329	GUUCCC AGAA GAAG ACCAGAGAACA X GUACAUUACCUUGUA	2554	CTTC TGTT GGAAC	2667
2373	AAAGAG AGAA GUUA ACCAGAGAACA X GUACAUUACCUUGUA	2555	TAAC AGCT CTCTTT	2668
2429	GAGUUC AGAA GUGA ACCAGAGAACA X GUACAUUACCUUGUA	2556	TCAC AGCT GAATC	2669
2439	CCCAUA AGAA GAGU ACCAGAGAACA X GUACAUUACCUUGUA	2557	ACTC AGTC TATGG	2670
2768	UAGGGG AGAA GCCU ACCAGAGAACA X GUACAUUACCUUGUA	2558	AGGC AGAT CCCCTA	2671
2812	CUUCUG AGAA GCAG ACCAGAGAACA X GUACAUUACCUUGUA	2559	CTGC AGAT TCAGAG	2672
2835	GCCAGA AGAA GAGC ACCAGAGAACA X GUACAUUACCUUGUA	2560	GCTC TGCC TCTGGC	2673
2944	ACAAAA AGAA GGA ACCAGAGAACA X GUACAUUACCUUGUA	2561	TTCC TGAT TTTTGT	2674
3009	UCCUGA AGAA GACC ACCAGAGAACA X GUACAUUACCUUGUA	2562	GGTC AGCT TCAGGA	2675
3021	CACUGG AGAA GGUC ACCAGAGAACA X GUACAUUACCUUGUA	2563	GACC TGTT CCAGTG	2676
3083	ACAGUG AGAA GUUC ACCAGAGAACA X GUACAUUACCUUGUA	2564	GAAC TGTT CACTGT	2677
3242	GCUCAG AGAA GUU ACCAGAGAACA X GUACAUUACCUUGUA	2565	ATAC AGTT CTGAGC	2678
3258	GAGCAA AGAA GGCU ACCAGAGAACA X GUACAUUACCUUGUA	2566	AGCC AGAC TTGCTC	2679
3312	UGCGGG AGAA GCAA ACCAGAGAACA X GUACAUUACCUUGUA	2567	TTGC AGAC CCCGCA	2680
3360	AUAUAG AGAA GGAC ACCAGAGAACA X GUACAUUACCUUGUA	2568	GTCC AGCT CTTATT	2681
3402	CUUGAC AGAA GCUU ACCAGAGAACA X GUACAUUACCUUGUA	2569	AAGC AGCT GTCAAG	2682
3420	GAACAC AGAA GUCU ACCAGAGAACA X GUACAUUACCUUGUA	2570	AGAC AGCT GTGTT	2683
3475	GACAGC AGAA GUCC ACCAGAGAACA X GUACAUUACCUUGUA	2571	GGAC CGTT GCTGTC	2684
3496	GCCCCA AGAA GCGU ACCAGAGAACA X GUACAUUACCUUGUA	2572	AGGC TGAC TGGGGC	2685
3512	UACGUA AGAA GACC ACCAGAGAACA X GUACAUUACCUUGUA	2573	GGTC AGAT TACGTA	2686
3595	GAACGG AGAA GGGG ACCAGAGAACA X GUACAUUACCUUGUA	2574	CCCC CGCC CCGTTC	2687
3600	GUAGGG AGAA GGGC ACCAGAGAACA X GUACAUUACCUUGUA	2575	GCCC CGTT CCCTAC	2688
3610	AGUGGA AGAA GUAG ACCAGAGAACA X GUACAUUACCUUGUA	2576	CTAC CGCC TCCACT	2689
3626	GAUAUG AGAA GGCA ACCAGAGAACA X GUACAUUACCUUGUA	2577	TGCC AGCT CATTT	2690
3693	AGGGAA AGAA GCCC ACCAGAGAACA X GUACAUUACCUUGUA	2578	GGGC AGCC TTCCCT	2691



Table V. Hairpin Ribozyme and Target sequences

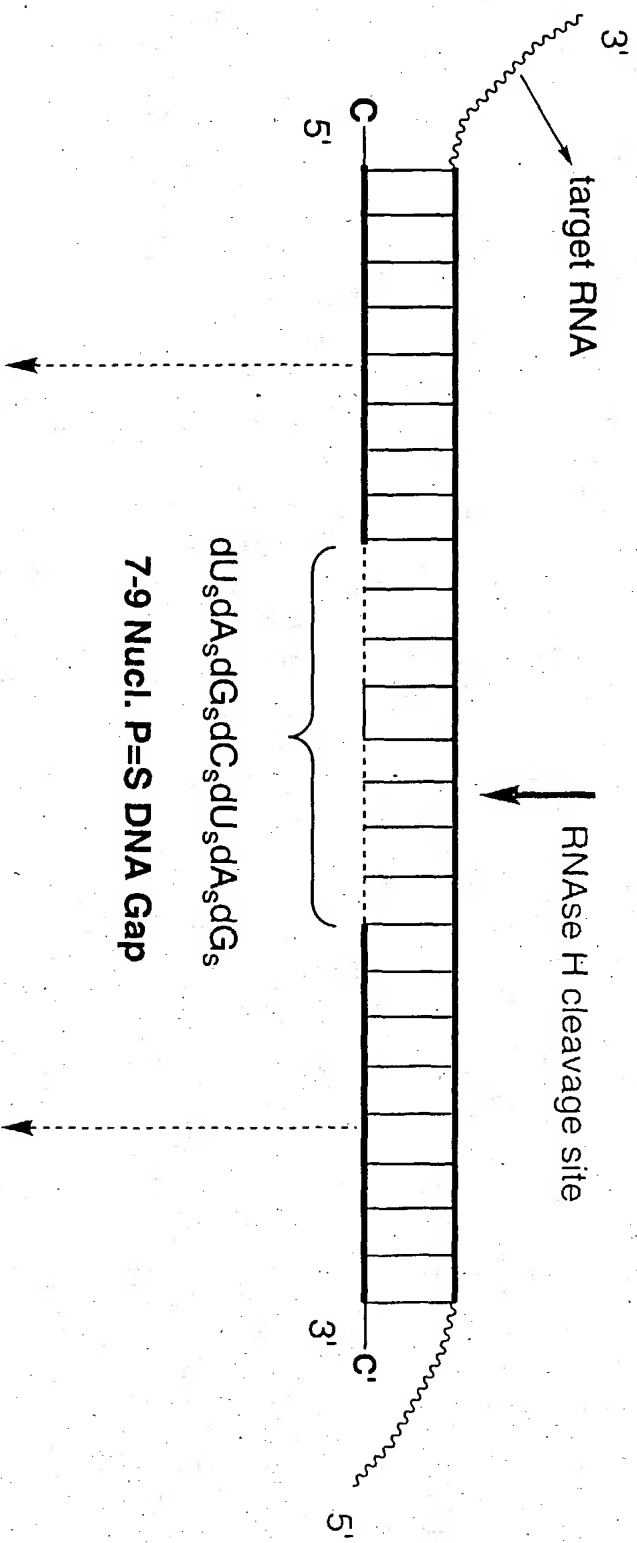
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3848	AGCCCG AGAA GCUA ACCAGAGAACA X GUACAUUACCUGUA	2579	TAGC TGCT CCGGCT	2692
3902	UGGACA AGAA GAAA ACCAGAGAACA X GUACAUUACCUGUA	2580	TTTC TGAT TGTCCA	2693
4047	UAAACA AGAA GCAA ACCAGAGAACA X GUACAUUACCUGUA	2581	TTGC TGT TGTTTA	2694
4157	AUCCAG AGAA GAU ACCAGAGAACA X GUACAUUACCUGUA	2582	ATTC TGT CTGAT	2695
4359	AUAGGC AGAA GGAU ACCAGAGAACA X GUACAUUACCUGUA	2583	ATCC AGAT GCCTAT	2696
4696	UCAUUC AGAA GAUG ACCAGAGAACA X GUACAUUACCUGUA	2584	CATC AGAT GATTGA	2697
4795	ACCAAC AGAA GCCA ACCAGAGAACA X GUACAUUACCUGUA	2585	TGGC TGAT GTTGGT	2698
4847	GGGGA AGAA GAGG ACCAGAGAACA X GUACAUUACCUGUA	2586	CCTC TGCT TTCCCC	2699
5032	CUCCAG AGAA GAAG ACCAGAGAACA X GUACAUUACCUGUA	2587	CTTC TGCC CTGAG	2700
5086	AACUGA AGAA GCCA ACCAGAGAACA X GUACAUUACCUGUA	2588	TGGC AGCT TCAGTT	2701
5092	CUCUAG AGAA GAAG ACCAGAGAACA X GUACAUUACCUGUA	2589	CTTC AGTT CTAGAG	2702
5285	AUCAA AGAA GCAC ACCAGAGAACA X GUACAUUACCUGUA	2590	GTGC AGTC TTTGAT	2703
5489	UUUGUA AGAA GUU ACCAGAGAACA X GUACAUUACCUGUA	2591	ACAC TGAT TACAA	2704
5590	AAGCAG AGAA GCCU ACCAGAGAACA X GUACAUUACCUGUA	2592	AGGC AGAT CTGCTT	2705
5595	UCCCCA AGAA GAUC ACCAGAGAACA X GUACAUUACCUGUA	2593	GATC TGCT TGGGA	2706
5803	GUUGGA AGAA GAGC ACCAGAGAACA X GUACAUUACCUGUA	2594	GCTC TGT TCCAAC	2707
5886	AUAGA AGAA GCAA ACCAGAGAACA X GUACAUUACCUGUA	2595	TTGC TGCC TCTATT	2708
5916	UCAAAA AGAA GUUC ACCAGAGAACA X GUACAUUACCUGUA	2596	GCAC TGTC TTTGA	2709
6087	AAAGGG AGAA GUU ACCAGAGAACA X GUACAUUACCUGUA	2597	ACAC AGAC CCCTTT	2710
6154	AACAGA AGAA GCGA ACCAGAGAACA X GUACAUUACCUGUA	2598	TGCC AGTT TCTGTT	2711
6160	UGAGAG AGAA GAAA ACCAGAGAACA X GUACAUUACCUGUA	2599	TTTC TGT CTCICA	2712
6284	GUUUC AGAA GCAA ACCAGAGAACA X GUACAUUACCUGUA	2600	TTGC CGAT GCATAC	2713
6300	AGUCAC AGAA GUAA ACCAGAGAACA X GUACAUUACCUGUA	2601	TTAC TGAT GTGACT	2714
6311	CGACAA AGAA GAGU ACCAGAGAACA X GUACAUUACCUGUA	2602	ACTC GGT TTTGCG	2715
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Table VI. Ribozymes for in vitro Cleavage

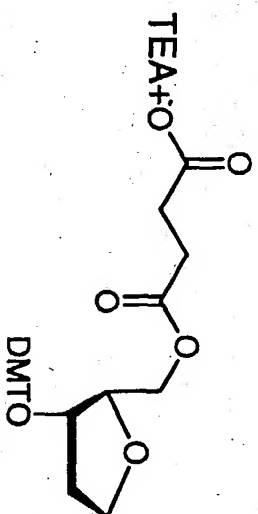
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Seq. ID. No	ALIAS	% CLEAVED ABOVE BACKGROUND 2 HOURS
2727	[A <sub>s</sub> T <sub>s</sub> A <sub>s</sub> G <sub>s</sub> A <sub>s</sub> TTT] cUGAuGaggccggaaggccGaa Aggcacac B	3.2
2728	[G <sub>s</sub> C <sub>s</sub> G <sub>s</sub> G <sub>s</sub> A <sub>s</sub> A <sub>s</sub> CC <sub>s</sub> ] cUGAuGaggccggaaggccGaa Agaungaug B	11
2729	[T <sub>s</sub> TTCC <sub>s</sub> CGA <sub>s</sub> ] cUGAuGaggccggaaggccGaa Agacaca B	1
2730	[A <sub>s</sub> TTCC <sub>s</sub> CTsGs] cUGAuGaggccggaaggccGaa Auuccuu B	80.8

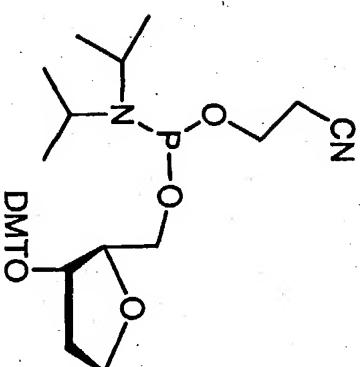


Novel nuclease resistant flanking sequences with strong hybridization properties

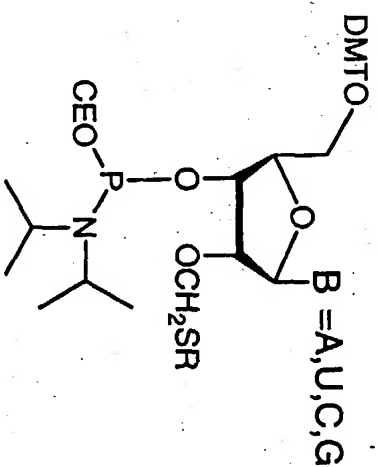
Figure 1. Schematic Representation of a Nucleic Acid Molecule with Novel Chemical Modifications Binding to RNA



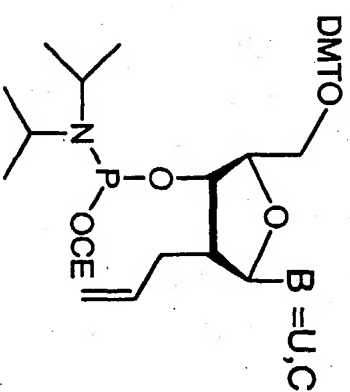
3-3'-Cap



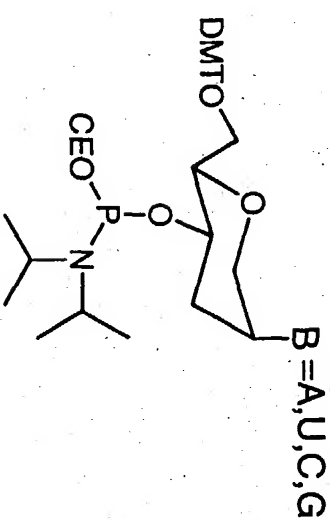
5-5'-Cap



2'-O-Methylthioalkyl



2'-C-Allyl



1-5-Anhydrohexyol (HNA)

Figure 2. Chemical Modifications Suitable for Incorporation into Nucleic Acid Molecules

**Figure 3: Ribozyme Motifs**

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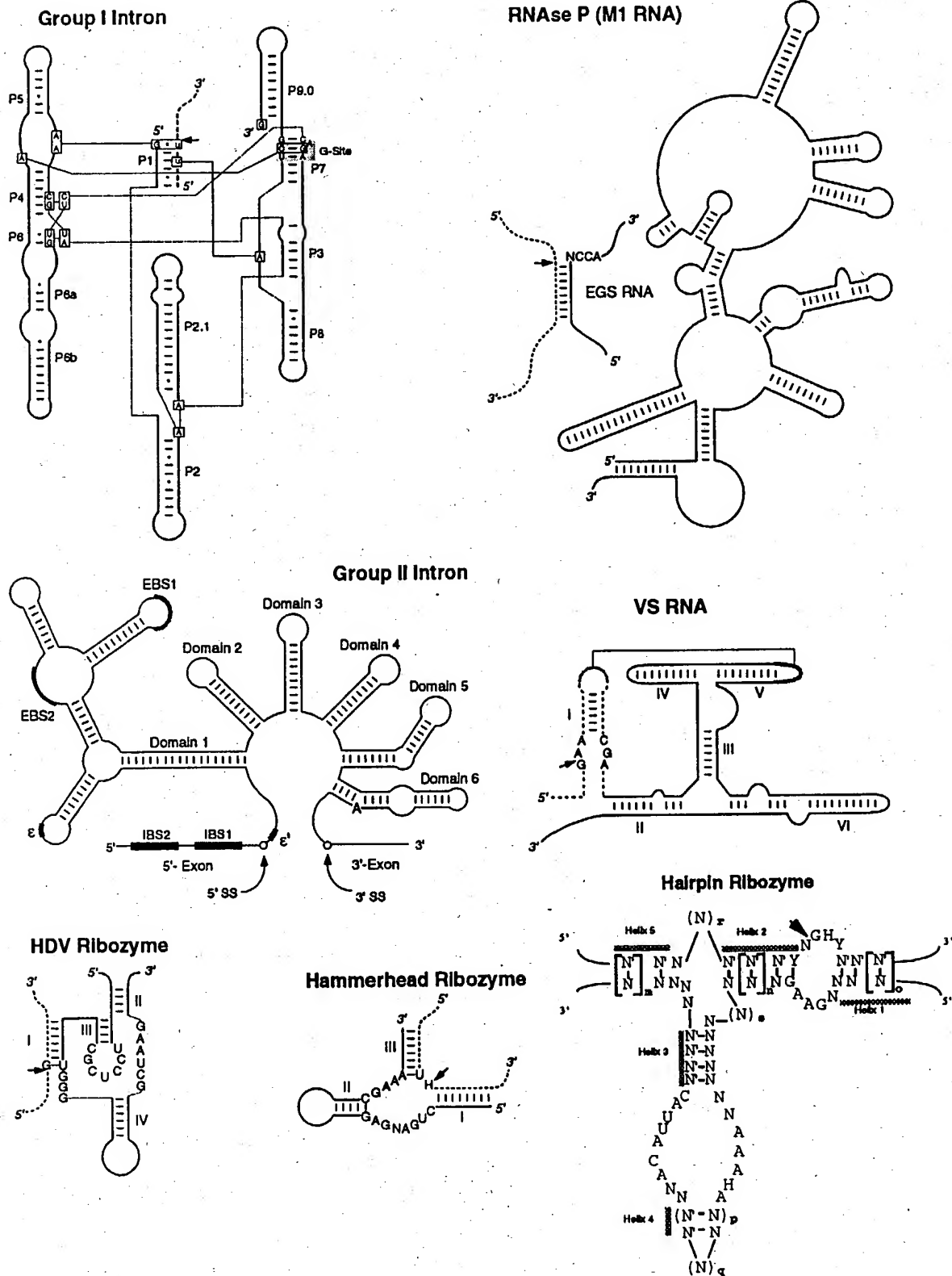
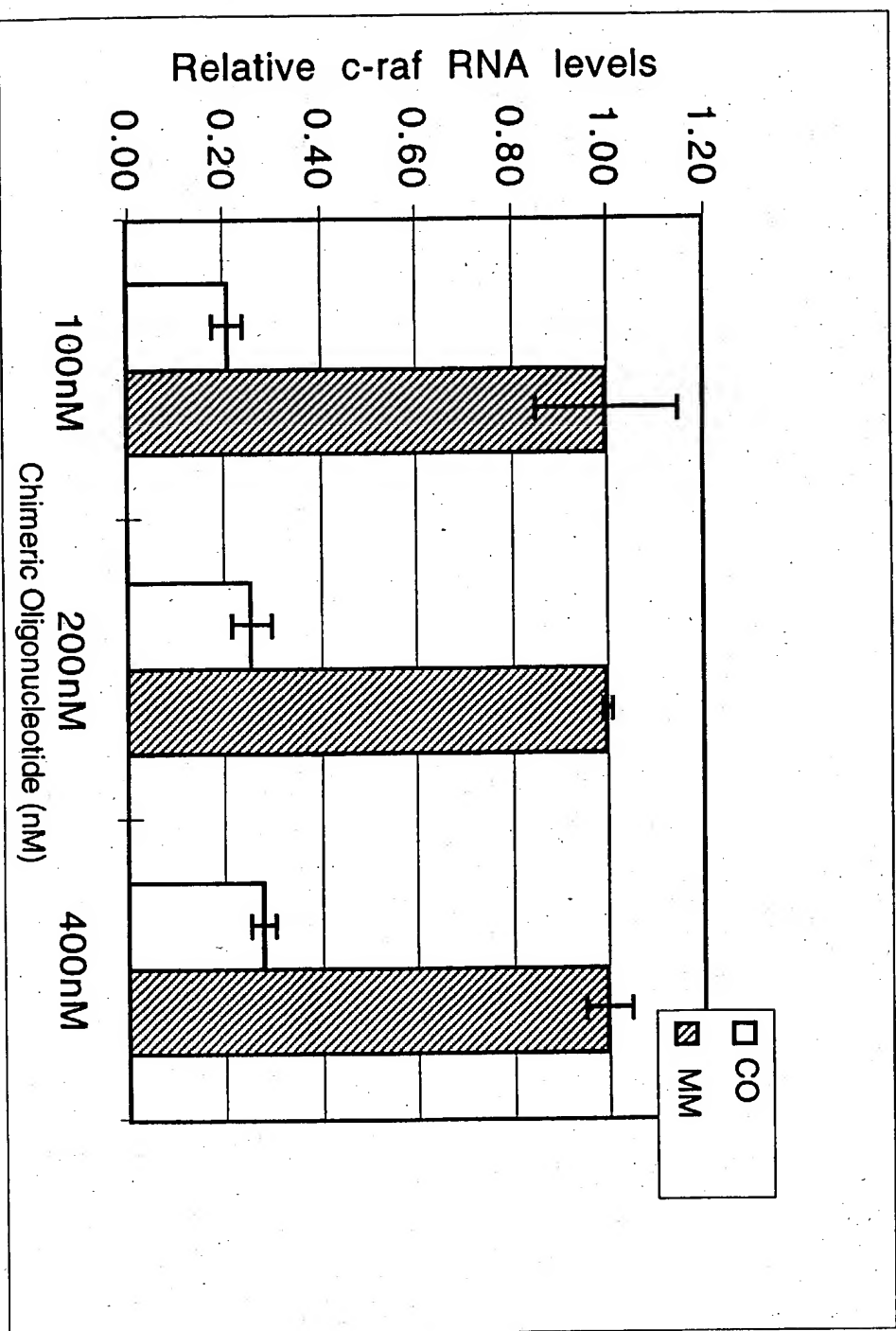






Figure 5: c-raf RNA Levels in PC-3 Cells Following Treatment with GSV delivered Chimeric Oligonucleotides (CO) Compared to Mismatch (MM) Control



**Figure 6a Chimeric Ribozyme Molecule<sup>233/235</sup>**

